BLM

Volume 2 - Appendicies

Final Environmental Impact Statement for the Searchlight Wind Energy Project NVN-084626 and NVN-086777

Bureau of Land Management
Las Vegas Field Office

in cooperation with

Western Area Power Administration
National Park Service

December 2012

Appendix A-1: Scoping Report

BLM

SCOPING SUMMARY REPORT

SEARCHLIGHT WIND ENERGY PROJECT ENVIRONMENTAL IMPACT STATEMENT

(NVN-084626 Searchlight Wind Energy Project and NVN-085777 Western Area Power Administration Substation)

Prepared for:
U.S. Department of Interior
Bureau of Land Management
Las Vegas Field Office
Las Vegas, Nevada

Prepared by:
URS Corporation

April 2009

TABLE OF CONTENTS

1.0 INTRODUCTION 1-1
- 1.1 OVERVIEW 1-1
- 1.2 BACKGROUND 1-1
- 1.3 PROJECT LOCATION 1-2
- 1.4 PROJECT UPDATES 1-2

2.0 SCOPING PROCESS 2-1
- 2.1 OBJECTIVES 2-1
- 2.2 DESCRIPTION OF THE SCOPING PROCESS 2-1
  - 2.2.1 Announcements 2-1
  - 2.2.2 Public Scoping Meetings 2-3
  - 2.2.3 Project Website 2-3

3.0 SUMMARY OF SCOPING COMMENTS 3-1
- 3.1 INTRODUCTION 3-1
- 3.2 COMMENT ORGANIZATION 3-1
- 3.3 SIGNIFICANT ISSUES AND ANTICIPATED ANALYSIS 3-2
- 3.4 SUMMARY OF PUBLIC COMMENTS 3-3
- 3.5 ISSUES IDENTIFIED DURING SCOPING 3-5
  - 3.5.1 Actions and Alternatives 3-5
  - 3.5.2 Environmental Impacts 3-7
- 3.6 BLM COMMENTS 3-10
- 3.7 WESTERN COMMENTS 3-11
- 3.8 ISSUES OUTSIDE THE SCOPE OF THE EIS 3-11

4.0 SUMMARY OF FUTURE STEPS IN THE EIS PROCESS 4-1
- 4.1 IDENTIFICATION OF ISSUES 4-1
- 4.2 DATA INFORMATION AND COLLECTION 4-1
- 4.3 IDENTIFYING ALTERNATIVES, ASSESSING IMPACTS, AND PLANNING MITIGATION 4-2
- 4.4 DRAFT EIS AND PUBLIC REVIEW 4-3
- 4.5 PREPARE FINAL EIS AND ISSUE RECORD OF DECISION 4-3
- 4.6 AGENCY AUTHORITIES AND DECISIONS TO BE MADE 4-3

LIST OF TABLES

Table 2-1 Display Advertisement Summary – January 2009 2-2
Table 2-2 Public Scoping Meeting Attendance 2-3
Table 3-1 Comment Summary 3-4
Table 4-1 Potential Agency Decisions and Actions 4-4

LIST OF FIGURES AND MAPS

Map 1-1 Site Layout Map (as presented during scoping) 1-3
Figure 4-1 Planning Process Flow Chart 4-1

LIST OF APPENDICES

A Announcements
Notice of Intent
Newsletter
Display Advertisement
Press Release (outlets and copy)

B Public Scoping Meeting Materials
Boards
Presentation
Sign-In Sheet
Comment Form

LIST OF ACRONYMS

BLM	Bureau of Land Management
CFR	Code of Federal Regulations
EIS	environmental impact statement
EPA	U.S. Environmental Protection Agency
FAA	Federal Aviation Administration
GIS	geographic information system
kV	kilovolt
MW	megawatt
NEPA	National Environmental Policy Act of 1969
NOI	Notice of Intent
O&M	operations and maintenance
ROW	right-of-way
Western	Western Area Power Administration

1.0 INTRODUCTION

1.1 OVERVIEW

The U.S. Department of the Interior, Bureau of Land Management (BLM), Las Vegas Field Office is preparing an environmental impact statement (EIS) to identify the potential effects of the construction, operation, and maintenance of the proposed Searchlight Wind Energy Project. The 370-megawatt[1] (MW) wind power generating facility and ancillary facilities would be located in an area near Searchlight, Nevada. The EIS is being prepared in compliance with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321), as amended, and the Council on Environmental Quality regulations (Title 40 Code of Federal Regulations [CFR] parts 1500-1508). As part of the EIS process, BLM will solicit and consider the views of interested parties.

This report summarizes the scoping process and comments received on the proposed project. Scoping is the first step and an integral part of the EIS process. It is "an early and open process for determining the issues to be addressed and for identifying the significant issues related to a proposed action" (40 CFR Part 1501.7). During scoping, BLM actively seeks to engage potentially affected or interested federal, state, and local agencies; American Indian tribes; and the public. Scoping for this EIS commenced on December 16, 2008, with the publication of a Notice of Intent (NOI) in the *Federal Register* (Appendix A), and concluded on February 17, 2009.

1.2 BACKGROUND

Searchlight Wind LLC (Searchlight Wind), a wholly owned subsidiary of Duke Energy, proposes to construct a 370-MW wind energy facility near Searchlight, Nevada, on public land administered by the BLM Las Vegas Field Office.

The purpose of the proposed project is to create an economically viable source of clean renewable electricity. The proposed project is responsive to federal and state renewable energy policies. Because wind is a local resource, the proposed project would contribute to domestic energy security while reducing greenhouse gases created by generating energy through the use of fossil fuels.

The primary components, as presented at the public scoping meetings of the proposed facility, are as follows:

- Up to 161 wind turbines, including concrete foundations, tubular steel towers, nacelles, and blades;
- Access roads;
- Electrical collection system (wind turbines to Searchlight Wind Substation);
- Communication lines;

[1] Note: When the NOI was published in December 2008, Searchlight Wind proposed a 359 MW wind generating facility. In January 2009, the proposed project was revised to generate 370 MW.

- Up to 161 pad-mount transformers, one located at the base of each wind turbine;
- Two electrical substations (one would be owned and operated by Western Area Power Administration [Western], one would be owned and operated by Searchlight Wind);
- Electrical transmission line (running between Western Substation and Searchlight Wind Substation);
- Operations and maintenance (O&M) building;
- Electrical interconnection (would be owned and operated by Western);
- Two lay down areas (one temporary, one permanent); and
- Up to five permanent meteorological masts.

1.3 PROJECT LOCATION

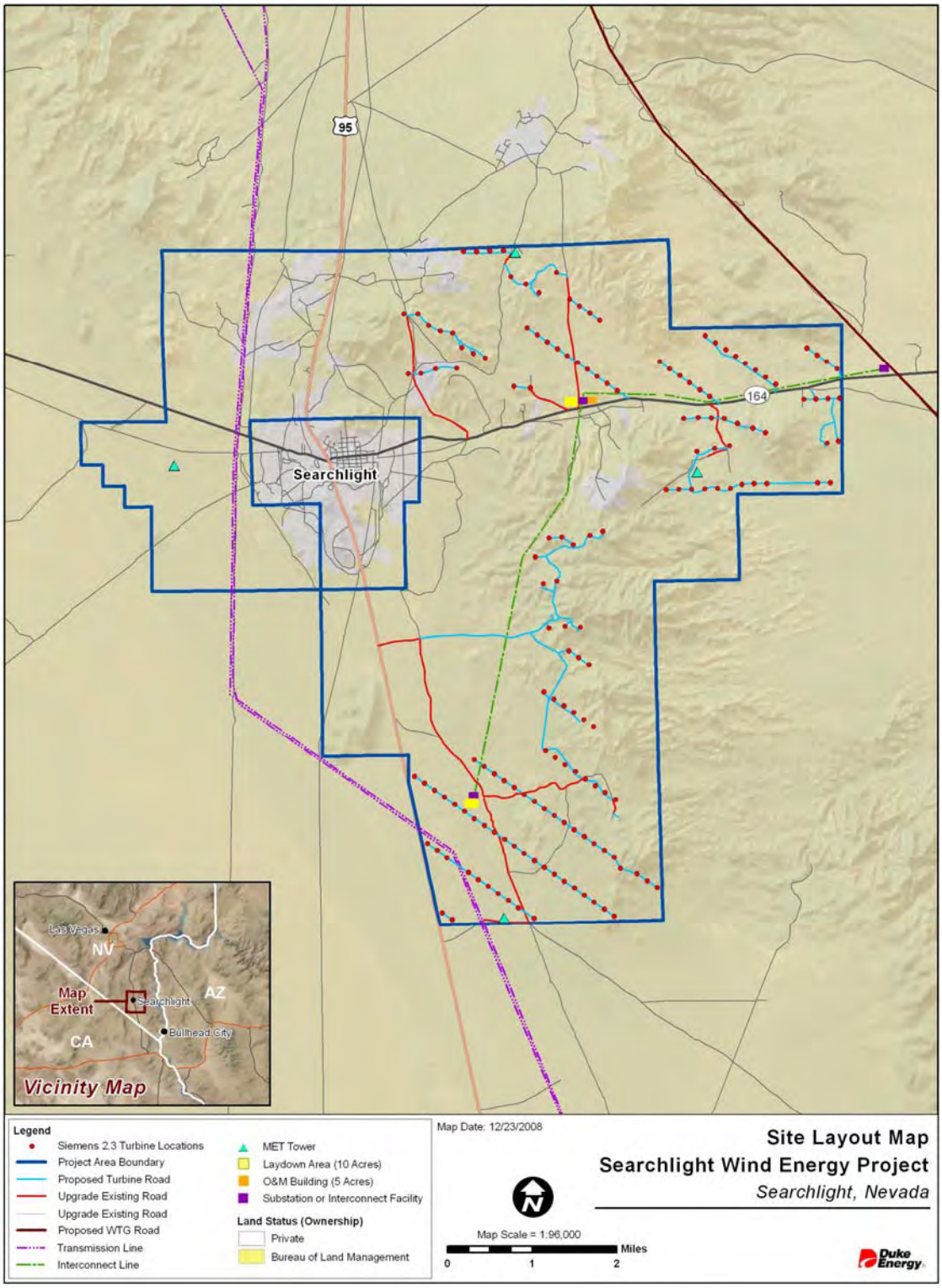
Searchlight Wind has submitted a right-of-way (ROW) application for 24,383 acres near Searchlight, Nevada, approximately 55 miles south of Las Vegas, Nevada, and 39 miles north of Laughlin, Nevada (Map 1-1). Proposed construction activities will encompass approximately 600 acres of disturbance, which includes approximately 120 acres of permanent disturbance and approximately 480 acres of temporary disturbance for construction activities. The total area estimated to be used by the project (all facilities and temporary disturbance) is approximately 2.1 percent of the total ROW. The permanent footprint of the wind energy facility will constitute 0.5 percent of the ROW.

1.4 PROJECT UPDATES

The initial Plan of Development for the proposed project was submitted in January 2008. Since then, formal and informal comments, along with engineering constraints, have resulted in the following changes to the proposed project design:

- All turbines would be located on the east side of the town of Searchlight to avoid surrounding the community.
- No turbines would be located on private property.
- All turbines would be moved back from the Searchlight airport to comply with Federal Aviation Administration (FAA) setback requirements for small airports.
- The total number of turbines proposed has been reduced from 161 (as presented in the scoping process) to 140.
- Roads and transmission lines have been adjusted for the revised design.
- Meteorological Tower Number 4 has been moved from west of the project area to southeast of the project area.
- Additional design details are provided concerning typical foundations, road design, construction methods and the potential for an on-site cement batch plan.

Map 1-1 Site Layout Map (as presented during scoping)



2.0 SCOPING PROCESS

This section provides a summary of the objectives of scoping and a description of the scoping process and agency coordination for the Searchlight Wind Energy Project.

2.1 OBJECTIVES

The objectives of the scoping process include the following:

- Invite affected federal, state, and local agencies; affected Native American tribes; and the public to:
  - Establish a process to integrate and expedite environmental reviews
  - Establish the planning and decision-making schedule
- Determine the scope of the project, including the range of actions, alternatives, and impacts to be considered in an EIS;
- Identify:
  - Issues that have been covered by prior environmental review that can be eliminated from detailed study
  - Any environmental assessments and other EISs being prepared, or that are planned for preparation, that are related to but are not part of the scope of the EIS under consideration
  - Other environmental review and consultation requirements (i.e., Endangered Species Act, Historic Preservation Act) so required analyses and studies can be prepared and integrated with the EIS

2.2 DESCRIPTION OF THE SCOPING PROCESS

The following section describes methods used to involve the public, notify them of scoping meetings, and facilitate exchange of current project information throughout the planning process.

2.2.1 Announcements

2.2.1.1 Notice of Intent

The public was notified of the project and upcoming scoping meetings through the NOI published in the *Federal Register* (http://edocket.access.gpo.gov/2008/E8-29686.htm) on December 16, 2008 (Appendix A). The NOI announced the intent to prepare an EIS and indicated that scoping meetings would be held in Boulder City, Laughlin, and Searchlight, Nevada. The NOI also stated that the specific dates, locations, and times of the scoping meetings would be announced through mail distribution on the BLM website (http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy.html) and in the local media. In addition, the NOI provided project information including a description of proposed facilities, the

project location, information on how to submit comments and why they are important, and BLM contact information.

2.2.1.2 Newsletters

The public and many agencies were notified of the scoping period and comment opportunities through a newsletter (Appendix A) distributed to approximately 814 people on January 16, 2009. The initial mailing list was provided by the BLM Las Vegas Field Office and included addresses of current local elected or municipal officials, federal and state agencies, potentially interested Native American tribes, and other interested parties. All post office box holders in zip codes 89046 (Searchlight, Nevada) and 89039 (Cal-Nev-Ari, Nevada) were sent a copy of the newsletter. The newsletter provided information for submitting comments via mail, fax, and e-mail, and included the direct contact information for the BLM Project Manager, Mark Chandler. The mailing list will be supplemented throughout the project to include those who provide scoping comments, attend meetings, or express to the BLM their interest in the project through the project website or direct request.

2.2.1.3 Media Contacts

The public was also notified of the scoping meetings through advertisements published in local newspapers, as listed in Table 2-1 (refer to Appendix A for a copy of the display advertisement). The table provides information on the publication, area of coverage, and print dates for the advertisements.

Initial public notice of the scoping meeting dates, times and locations were published, 15 days in advance of the first meeting, in a display advertisement in the Las Vegas Review Journal on January 12, 2008. This advertisement ran again on January 18, 2008.

Advertisements were also placed in the Boulder City News (January 15, 2008) and the Laughlin Times (January 14, 2008). Approximately 50 flyers announcing the meetings were posted in local gathering places in Searchlight and the surrounding communities. This service was provided by the Desert Flyer, a newsletter local to the Searchlight area.

Table 2-1 Display Advertisement Summary – January 2009

Publication	Area of Coverage	Print Date
Las Vegas Review Journal	Las Vegas metropolitan area, southern Nevada	January 12, 18
Boulder City News	Boulder City, Nevada	January 15
Laughlin Times	Laughlin, Nevada	January 14
Desert Flyer (posted flyers)	Laughlin to Nelson, Nevada	January 12

News releases were distributed to newspapers, radio, and television stations and to community newsletters on January 22, 2009, to assist with public notification. A copy of the news release and the media outlets to which it was distributed are included in Appendix A.

2.2.2 Public Scoping Meetings

Three public scoping meetings were held for the proposed project. At each scoping meeting, representatives from URS Corporation (the environmental consultant assisting the BLM with the EIS), the BLM, and Searchlight Wind provided a presentation on the NEPA process, the proposed project and associated facilities, and how to provide scoping comments. Display boards were provided showing information on the project purpose and need, project description, planning process, purpose of the scoping process, and public comment opportunities. Before and after the presentation, an open house atmosphere was maintained during which attendees could review the display boards and speak informally to project team members.

Meeting attendees were encouraged to ask questions and provide comments both during and after the presentation, or one-on-one during the open house portion of the public scoping meetings. Comment forms were available at each meeting for attendees to provide written comments at the time of the meeting or to return by mail. Locations, dates, and attendance of each public meeting are provided in Table 2-2. Copies of scoping meeting materials including the presentation, display boards, and the comment form are provided in Appendix B.

Table 2-2 Public Scoping Meeting Attendance

Location	Date	Attendance
Searchlight, Nevada – Searchlight Community Center	January 27, 2009	73
Laughlin, Nevada – William G. Bennett Elementary School	January 28, 2009	4
Boulder City, Nevada – Boulder City Library	January 29, 2009	36
Total Attendance at Scoping Meetings		**113**

2.2.3 Project Website

To ensure the ease of public access, the project newsletter and the draft project Plan of Development were both posted on a BLM Web page at http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy.html. A copy of this scoping report will be posted to the project website in April 2009.

3.0 SUMMARY OF SCOPING COMMENTS

3.1 INTRODUCTION

This section provides: (1) summaries of the method used to organize and analyze comments; (2) the number of comments received; (3) the number of issues identified within those comments; (4) summaries of issues identified during scoping; (5) BLM management concerns that were identified independent of public or agency scoping comments; and (6) a list of issues that will not be identified in the EIS with justification as to why they will not be addressed. All the scoping comments documented in this report were received or postmarked by the close of the comment period on February 17, 2009.

Comments regarding the proposed project and alternatives to the proposed project will be considered by the BLM in refining the project description and alternatives that will serve as the basis for assessing impacts. The Council on Environmental Quality regulations implementing NEPA requires an analysis of available alternative actions prior to selecting the preferred alternative action. Input on alternatives will be considered in the analysis and text of the EIS. Chapter 2 of the EIS will describe which alternatives were considered but were not carried forward for detailed analysis in the EIS.

The Council on Environmental Quality regulations require an analysis of the impacts of a project on the "human environment." These impacts include effects on natural, human, and cultural resources. Discussions with affected public or agencies, such as those that have occurred through this scoping effort, help to define and evaluate effects of the different alternatives on the human environment. Comments relating to environmental impacts will be considered by BLM in developing the scope of EIS technical studies. Chapters 3 (Affected Environment) and 4 (Environmental Consequences) of the EIS will address the issues incorporated into the study. Concerns about the EIS studies and decision-making processes will be considered in refining and modifying the EIS process throughout the remainder of the EIS preparation.

Some comments may be considered outside the scope of this EIS if: (1) the issue relates to facilities not included in this project; (2) the issue is not within the jurisdiction of BLM to resolve; or (3) the issue cannot be reasonably addressed within the scope of this process or is being addressed through a separate NEPA process. In addition, personal opinions of individuals or special interest groups about the proposed project, wind power, the BLM, and other topics are also considered outside the scope of the EIS and will not be addressed. Issues that will not be addressed are identified by issue or resource in Section 3.8.

3.2 COMMENT ORGANIZATION

The comment forms, e-mails, and mailed and faxed letters received through February 17, 2009, were reviewed, documented, and entered into a database to facilitate organization, sorting, analytical review, and to manage comments. The database was structured to organize comments into separate issue categories and identify the type of comment (e.g., letter, e-mail, fax, postcard, or telephone record). Using the experience and professional judgment of the study team, the comments were organized according to 14 major issue categories as they relate to the EIS. The issue categories are as follows and described in detail in Section 3.5.

Actions and Alternatives: This category includes comments about various aspects and components of the proposed project. Comments also indicate suggestions for and concerns about alternative facilities that should be considered in the EIS. Comments also identified topics relative to the planning and EIS preparation process, including public review opportunities. Identified issue categories are:

- Process (including EIS preparation and studies)
- Project Alternatives
- Project Description
- Project Need

Environmental Impacts: This category includes comments about the proposed project's potential impacts on natural resources, human resources, and cultural resources as well as comments about social and economic concerns. Topic categories include the following:

- Air Quality
- Cultural/Archaeology
- Hazardous Materials/Safety
- Land Use/Transportation
- Noise/Vibration
- Socioeconomics
- Vegetation/Wildlife
- Visual Resources
- Water Resources
- Cumulative Effects

3.3 SIGNIFICANT ISSUES AND ANTICIPATED ANALYSIS

NEPA requires federal agencies to focus their analysis and documentation on the significant issues related to a proposed action. Significant issues serve as the basis for developing and comparing alternatives. The BLM has identified significant issues associated with the proposed project; these are presented in Sections 3.5, 3.6, and 3.7. Issues include those raised externally during the public scoping process and those developed internally by the BLM. The significant issues are stated in the form of a question by resource category. These issues are analyzed in the EIS. Issues identified during scoping but not considered significant are addressed in Section 3.8 and are not carried forward in the EIS.

3.4 SUMMARY OF PUBLIC COMMENTS

Quantifying comments and issues is helpful in summarizing comments for public review and helping to guide future EIS studies. This process requires the coder to interpret comments in order to glean and categorize any substantive issues. While definitive parameters are established around each category, it must be noted that categorizing comments is a subjective process.

The level of importance of comments to BLM or to the decision-making process is not influenced by the frequency of a specific issue. The BLM takes all substantive issues into consideration regardless of the number of comments in which they occur. For instance, numerous copies of the same form letter may be submitted by unique individuals, or a person may have attended several scoping meetings or mentioned the same issue several times in their letter. In these cases, issues would be recorded several times. However, if a substantive comment appears only once, it will have the same level of importance as those mentioned more frequently.

A total of 66 comment submissions were received and entered into the project database. The individual issues within each comment were classified into the 14 main categories of issues (discussed in Section 3.2 above), and 58 categories of sub-issues. For example, if a comment stated a concern about use of land for recreation (i.e., hiking or hunting), the comment was listed under the main issue of land use, sub-issue of recreation. Similarly, if a comment questioned noise from construction equipment, noise/vibration was identified as the main issue, with construction noise as the sub-issue. This organization allowed the project team to identify, quantify, and analyze public concern during preparation of this scoping report and the EIS. It also allowed team members to identify issues at a very detailed level while maintaining the context of each comment. If a comment mentioned multiple issues, it was categorized as belonging to each of those issues. These comments and issues are summarized in Section 3.4 along with a sample of representative quotations.

Within the 66 comment submissions received, 384 issues were identified and categorized into the 14 main issue categories. In some instances, a single letter may mention the same issue multiple times through various statements. Each statement was entered into the project database and categorized as to issue and sub-issue. Table 3-1 summarizes the volume of comments received on each of the 14 main issue categories.

Table 3-1 Comment Summary

Main Issue	Total Comments	Percent Based on Total Comments Identified*
Air Quality	19	5
Cultural/Archaeology	16	4
Cumulative Effects	8	2
Hazardous Materials/Safety	31	8
Land Use/Transportation	32	8
Noise/Vibration	16	4
Process	12	3
Project Alternatives	41	11
Project Description	33	9
Project Need	2	0.5
Socioeconomics	45	12
Vegetation/Wildlife	82	21
Visual Resources	40	10
Water	7	2
Total Unique Comments	**384**	**99.5**

NOTE: *Due to rounding and comment submissions not relevant to comment categories (i.e., mailing list submissions), the total does not equal 100 percent.

As noted in the table above, concerns about vegetation/wildlife were most frequently mentioned, appearing in 21 percent of total comments received. In this category, concerns about impacts on special status species/habitat were most prevalent, appearing in 32 percent of comments within vegetation/wildlife. Section 3.5.2.8 contains representative questions illustrating these concerns.

Socioeconomic issues were present in 12 percent of total comments received. Specifically, property values and quality of life were the highest areas of concern in the socioeconomic category, occurring respectively in 33 percent and 18 percent of comments in this category. Section 3.5.2.7 contains representative questions illustrating these concerns.

Project alternative suggestions (11 percent of total comments) were also relatively high. Sixty-six percent of comments in this category included suggestions on alternative locations, while 29 percent of comments included questions about other forms of renewable energy. Section 3.5.1.2 (project alternatives) contains representative questions illustrating these concerns.

Concerns about impacts on visual resources occurred in 10 percent of total comments received. Main issues occurring within the visual resources category were direct facility impacts and impacts on the scenic quality of the project area, occurring respectively in 58 percent and 28 percent of the comments in this category. Section 3.5.2.9 (visual resources) contains representative questions illustrating these concerns.

Questions regarding plans for the proposed project made up the project description category and were expressed in 9 percent of all comments. The majority of these comments were related to land disturbance (21 percent of total comments in this category), land restoration (15 percent of total comments in this

category), and transmission/substation (15 percent of total comments in this category) concerns. Section 3.5.1.3 (project description) contains representative questions illustrating these concerns.

Hazardous materials/safety issues occurred in 8 percent of all comments; the majority of which (68 percent) concerned air safety resulting from facility height, lights, or communication/signal interference. Section 3.5.2.4 (hazardous materials/safety) contains representative questions illustrating these concerns.

Comments concerning land use/transportation, specifically, recreation concerns (34 percent of total comments in this category) and adjacent land use concerns (31 percent of total comments in this category), were also noted in 8 percent of total comments received. Section 3.5.2.5 (land use/ transportation) contains representative questions illustrating these concerns.

3.5 ISSUES IDENTIFIED DURING SCOPING

The following section provides a summary of unique comment issues identified during scoping, including a sample of representative questions. Some statements serve to summarize dozens of comments, while others summarize one comment. The method used to identify and categorize issues is discussed in Sections 3.2 and 3.3.

3.5.1 Actions and Alternatives

3.5.1.1 Process

Comments in this category primarily questioned the scoping and public involvement processes. Some questions were received on studies being done for the project or additional studies that should be completed for the EIS.

- If studies were being done, why was it nearly a year before local residents learned of the project?
- Why is the Plan of Development incomplete?
- At the scoping meeting, what was the reason the boundaries on the maps did not match?
- Why were residents of Grandpa's Road and Cottonwood Cove not contacted about this project?
- With other renewable generation projects proposed in Nevada and California, is there a study on shared access and transmission for these projects?
- Some studies appear incomplete. Will more engineering and meteorological studies be prepared before BLM makes a decision on project viability and location?

3.5.1.2 Project Alternatives

Comments in this category suggested alternative locations and actions for the project.

- Why has Searchlight Wind proposed a wind facility and not a solar generation plant?
- Wouldn't small-scale rooftop wind or solar generators be a better option?
- Why put the wind towers in plain view of the town when there is so much uninhabited land available?
- Why is the Searchlight area the chosen location for the project when other areas have much better rated wind generating capacity?
- Why not consider areas to the north of Searchlight, beyond the ridges, or along the highway?
- Why not put the turbines in an already industrial or developed area?
- Is it possible for power lines to be buried?

3.5.1.3 Project Description

Comments in this category are related to specifications of the proposed project.

- How much energy will be lost during transmission?
- Can power lines be run underground?
- After the estimated 20-year life of the project, why isn't replacement of components and facilities addressed as an option?
- What is the restoration plan for the 600 acres of land that will be disturbed?
- Why is such a large area (24,000 acres) being requested in the right-of-way application? Can a smaller area be authorized (only the area required for the project)?
- What are the permanent effects of land disturbance on the area?
- How will turbine height be adjusted to meet local regulations?
- How many miles of roads will be bulldozed and dynamited in? Where will any gravel, fill, or other materials used come from?

3.5.1.4 Project Need

Two comments were received questioning the need for the project.

- What data are being used to determine consumer need for this project?
- How could conservation efforts minimize the need for this and other new energy projects?

3.5.2 Environmental Impacts

3.5.2.1 Air Quality

- How will ambient air quality be studied? What monitoring activities will be implemented to assure compliance with state and federal air quality regulations?
- How will dust from construction and operations activities be controlled? What regulations will guide dust control measures?
- What measures will be taken to mitigate emissions from construction and maintenance vehicles?
- Is there a smoke management plan that will help reduce health impacts from burned vegetation?
- What types of permits are needed to assure local, state, and federal regulatory compliance regarding air quality standards?
- How will the project and facilities be affected by climate change?
- What will be the greenhouse gas emissions produced by project construction and operation?

3.5.2.2 Cultural/Archaeology

- How will archaeologically sensitive areas such as those present in the lower Colorado River region be affected by the project?
- How will the study address archaeologically sensitive areas that will be destroyed?
- What considerations are being made regarding the historical significance of Searchlight?
- How will Native American communities be affected by the project?
- What efforts will be made to involve Native American officials in the study?
- How will Spirit Mountain, a place of significance to Native Americans, be affected?
- Will special considerations be made for areas with petroglyphs?

3.5.2.3 Cumulative Effects

- There are numerous energy projects proposed in the area. How will these be evaluated for past, present, and future cumulative impacts?
- If this project is approved, is a precedent being set making it easier for other projects to be established using BLM land?
- With numerous alternative energy proposals being considered on BLM land in southern Nevada, what is the management document guiding BLM land use decisions for alternative energy projects?

3.5.2.4 Hazardous Materials/Safety

- Will the turbines leak oil or other fluids? What plans are in place to mitigate this?
- Will the turbines or generators catch fire due to malfunction or lightning strike?
- Will drinking water be contaminated due to project activity?
- Can debris be flung from the turbines onto nearby roads and threaten driver safety?
- How will the project affect the navigational equipment used at the airport?
- Is there an awareness that the Flight for Life helicopter may not be able to land or fly safely?
- Will the lights on the turbines be a safety hazard for flight operation by affecting or disorienting flight crews?
- Will reflective paint be placed on the blades so pilots are aware of the full structure height (not just the height of the main tower)?
- If the Searchlight airport is not available to be used as a feeder airport for Las Vegas in times of overcrowding, could this cause a safety issue from overcrowding and burdening of the FAA system?

3.5.2.5 Land Use/Transportation

- How will the project plan support or conflict with the land use plans of other governing bodies?
- Will the public be able to access any of the 25,000 acres currently under study for this project?
- How will hunting in the project area be affected? Will access to hunting areas be restricted?
- Will noise created by the turbines effect recreation areas?
- Could this project and the associated structures conflict with development of air travel facilities, including the future potential expansion of Searchlight Airport or the development of private airparks?
- Will this project jeopardize or limit the trail system that has been in the planning stages for four years?
- What effects will users of all-terrain vehicles experience?
- Since Cottonwood Cove Road will be used as a main access road, what measures will be taken to ensure it can withstand the increase in construction traffic?
- Will Cottonwood Cove Road remain open at all times for emergencies?

3.5.2.6 Noise/Vibration

- How will eight months of construction noise affect Searchlight?
- What impact will construction noise have on animals in the region?

- Will the turbines make noise? How will it affect the quality of life for Searchlight residents?
- What research is available on the effects noise has on communities with wind generation facilities?
- How will the effects of noise on the surrounding areas be studied?
- Will the turbines cause vibration?

3.5.2.7 Socioeconomics

- How will construction and operation of the wind facilities affect tourism?
- How will quality of life for Searchlight residents change as the wind facility changes the area?
- Will property values of the area be affected by the project? What effects have other wind communities experienced?
- How will Searchlight residents benefit from this project?
- Searchlight has one ambulance. Will the addition of construction crews to the area overtax available medical services?
- Will local jobs be lost due to impacts on tourism?
- Will construction and maintenance workers be hired locally?
- How will this project affect future economic growth for Searchlight?

3.5.2.8 Vegetation/Wildlife

- How will the desert tortoise be affected by construction and maintenance of the project?
- Will common black hawks and bald eagles from nearby populations be affected?
- What efforts will be made to minimize impacts on habitats of special status species of plants and animals?
- How will Joshua trees be affected by the project?
- What is the weed management plan?
- How will noise from the turbines affect animal populations?
- Will birds and bats be injured or killed? What efforts will be taken to minimize this?
- How will impacts on Gila monsters and bighorn sheep be studied?
- If herbicides will be used to remove or control vegetation, how will the area be affected?
- How will bird migration be affected?

3.5.2.9 Visual Resources

- Will the placement of wind turbines affect views of scenic areas such as Lake Mohave and the surrounding mountains?
- How will the placement of wind turbines affect views of scenic areas surrounding Lake Mead National Recreation Area?
- How will impacts to the scenic quality of the area be studied?
- What effect will turbine lighting have on air safety?
- Will flashing lights from the wind mill blades from the sun's reflection be a dangerous distraction for drivers?
- How will tourism be impacted by changes to the visual environment?
- Will the new facility give Searchlight an industrial look?
- What steps will be taken to minimize visual impacts on the area?

3.5.2.10 Water

- How will water be used during construction?
- How much water will be used?
- What regulations will ensure that any water used for the project is used wisely and for the public good?
- Will overall water quality be affected by the project and project activities?
- What regulations will ensure that all efforts are made to prevent water quality from being affected?

3.6 BLM COMMENTS

As required by BLM guidance (Handbook H-1790-1), an internal review was implemented to establish whether any areas of concern, which did not appear in public comments, existed. Such concerns were identified based on cooperation or pending cooperation with the following agencies: Nevada Department of Wildlife, Nevada Division of Environmental Protection, National Park Service, Clark County, and the United States Department of Defense. The following are questions representative of these concerns.

- Will any Waters of the United States be impacted by the project? Will a Section 401 or 404 permit be required?
- What potential conflicts with mineral issues and existing mining claims, plans, or notices exist?

3.7 WESTERN COMMENTS

Searchlight Wind has submitted an application to Western to interconnect 300 MW of the proposed wind energy generation site with Western's existing Davis-Mead 230-kilovolt (kV) Transmission Line, near its crossing of State Route 164 seven miles east of Searchlight, Nevada. Western proposes to construct a new 230-kV substation to accommodate the interconnection and provide transmission service up to 300 MW to Searchlight Wind Energy LLC based on the application. If the wind energy generation site is built out to more than 300 MW, Western would address the need for an additional transmission capacity in a separate and subsequent process.

Western is addressing the Searchlight Wind application under its Large Generator Interconnection Procedures included with its Open Access Transmission Service Tariff (http://www.wapa.gov/transmission/oatt.htm). The procedures include conducting transmission system studies to ensure that the transmission system can accommodate the proposed wind generating facility. At this time, all the transmission system studies have not been completed. Details, requirements, and environmental impacts for other system improvements are unknown at this time, since they would be dictated by the on-going transmission system studies. These studies may identify additional upgrades needed to accommodate the proposed interconnection, including modifications at existing Western substations that could include installing new control buildings, new circuit breakers and controls; adding new electrical equipment, which would include installing new concrete foundations for electrical equipment and buildings, substation bus work, cable trenches, buried cable grounding grid, and new surface grounding material; and/or replacing existing equipment and/or conductors with new equipment and/or conductors to accommodate the proposed interconnection.

If any needed transmission system modifications are identified after the completion of the EIS, Western would address the environmental impacts of these modifications in accordance with regulatory requirements.

3.8 ISSUES OUTSIDE THE SCOPE OF THE EIS

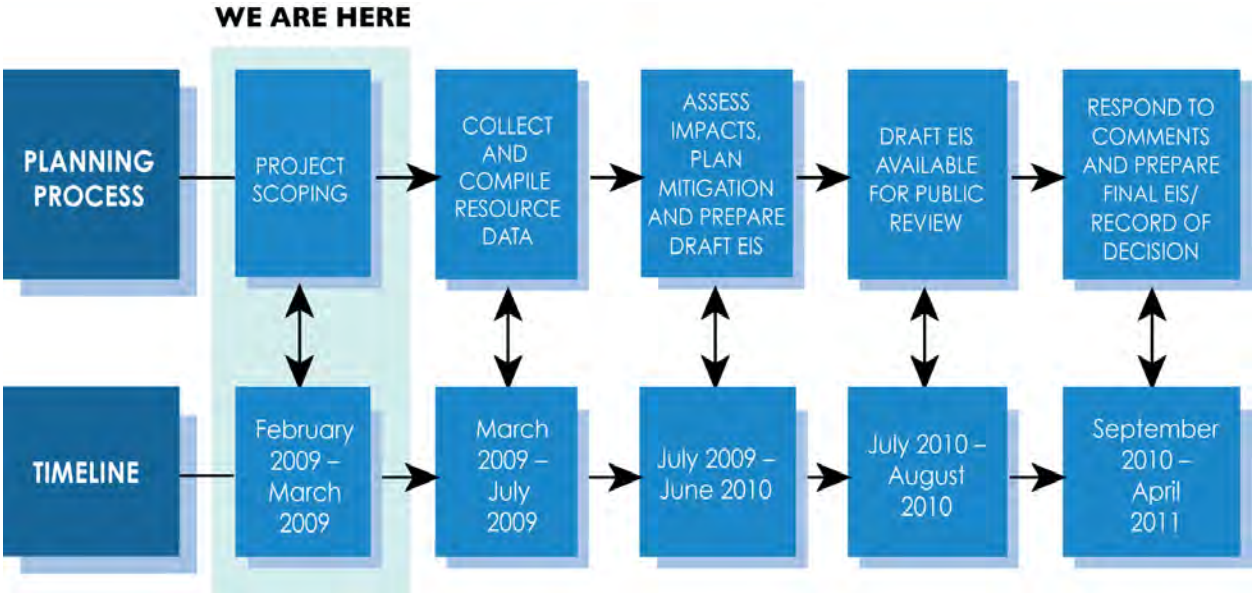
Some comments were received regarding the project proponent, Searchlight Wind. These comments in some instances requested a detailed analysis of the company and investors. It was requested that the EIS disclose who the investors are, if the company is foreign-owned, and what actions (if any) state-elected officials have taken to promote this or other renewable projects on BLM land. An EIS is intended to evaluate potential environmental impacts. It is beyond the scope of this effort to evaluate the corporate structure or financial resources of Searchlight Wind; therefore, these comments will not be addressed in the EIS.

Additional questions were received regarding the types of permits that would be required and comments were received indicating that the facility should be required to obtain appropriate permits (i.e., air or water use permits) prior to construction. Permits required by other federal, state, or local agencies are outside the jurisdiction of the BLM and subject to separate processes. While the necessary permits and authorities are disclosed in this document (see Section 4.6), the preparation and public availability of those permit applications will occur independent of the preparation of this EIS. Nevertheless, it is important to note that all federal, state or local permits pertaining to the proposed actions of the applicant are required to be in place prior to the issuance of the Notice to Proceed.

4.0 SUMMARY OF FUTURE STEPS IN THE EIS PROCESS

The process for the EIS requires a team of interdisciplinary resource specialists to complete each step. An important part of the BLM planning process is engaging the public and relevant agencies from the earliest stages of and throughout the planning process to address issues, comments, and concerns. The steps of the planning process and agency authority and decisions to be made are described below. Figure 4-1 provides a summary of the EIS process and schedule.

Figure 4-1 Planning Process Flow Chart



4.1 IDENTIFICATION OF ISSUES

Issues associated with the proposed project were identified through the scoping period, which initiated the planning process. The scoping process and the issues identified through the scoping process are documented in this scoping report, which is also available on the project website (http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy.html) and from the BLM Las Vegas Field Office.

4.2 DATA INFORMATION AND COLLECTION

Much of the necessary resource data and information will be compiled and used from existing data on file at BLM Las Vegas Field Office, BLM Nevada State Office, or through other local agencies and academic institutions. Additional data and information will be obtained from current studies being conducted by BLM and other sources to update and/or supplement BLM's data.

Data could be obtained from published and unpublished reports, maps, and digital information for use in a geographic information system (GIS). Generally, the resources and resource uses to be addressed include the following:

- Land Use
- Recreation and Access
- Special Management Areas (including Areas of Critical Environmental Concern, Special Recreation Management Areas, and Wilderness Study Areas)
- Groundwater and Surface-Water Resources
- Climate and Air Quality
- Biological Resources (including vegetation, wildlife, special status species, wild horses and burros, noxious weeds and invasive species)
- Geology, Soils, and Minerals
- Noise
- Archaeological Resources, Historic Properties, and Paleontological Resources
- Visual Resources
- Social and Economic Conditions
- Environmental Justice
- Public Health and Safety, Hazardous Materials and Waste

During the data collection and information collection step of the EIS process, BLM will initiate specific coordination with agencies, including the U.S. Fish and Wildlife Service for Section 7 consultation, the Nevada State Historic Preservation Office for Section 106 consultation, and the U.S. Army Corps of Engineers for Section 404 consultation, to ensure these procedures are completed in conjunction with the EIS process. In addition, a summary of all tribal coordination and consultation will be included in Chapter 5, Consultation and Coordination, of the Draft EIS.

4.3 IDENTIFYING ALTERNATIVES, ASSESSING IMPACTS, AND PLANNING MITIGATION

Based on collected data, including public comments, a description of proposed actions and alternatives (including no action) will be developed. Only alternatives that meet a standard of technical and economic feasibility will be considered in detail. Proposed alternative actions will be responsive to issues identified through the scoping process, fulfill the purpose and need (as described in the EIS), be consistent with agency planning documents, and address key social and environmental concerns. Impacts that could result from implementing the proposed action and alternatives will be analyzed and measures to mitigate those impacts will be identified where appropriate.

4.4 DRAFT EIS AND PUBLIC REVIEW

A summary of the scoping process, data collection efforts, and the findings of the impact assessment and mitigation planning will be documented in a Draft EIS. The Draft EIS is expected to be available for public review by mid-2010. To initiate the public comment period, the BLM will file the Draft EIS with the U.S. Environmental Protection Agency (EPA). Upon receipt of the document, the EPA will publish a filing notice in the *Federal Register*. The date the EPA notice appears in the *Federal Register* is the date that the public review period begins. The BLM will then inform the public that the Draft EIS is available for public comment by publishing a Notice of Availability in the *Federal Register* and advertising in local media. Public comments will be accepted for a period of either 45 or 60 days. During this time, meetings will be held to receive comments on the adequacy of the Draft EIS.

4.5 PREPARE FINAL EIS AND ISSUE RECORD OF DECISION

BLM will review and prepare responses to comments received on the Draft EIS. The EIS may or may not be modified based on public comments; however, all substantive comments and responses will be incorporated into the Final EIS.

The Final EIS also will be made available for the public to review for a period of 30 days, estimated for the fall of 2010. The availability of the Final EIS will be announced in the *Federal Register* and advertised in local media. Following the 30-day period, BLM will address any protests and/or issues in a Record of Decision, currently expected in early 2011.

In response to its need for agency action, Western will adopt the EIS and use it to support a decision on whether or not to grant the interconnection for the proposed wind generating facility. Western's decision will be addressed in a separate Record of Decision, currently expected in early 2011.

4.6 AGENCY AUTHORITIES AND DECISIONS TO BE MADE

Prior to and during the scoping process, BLM anticipated the discretionary government actions that would need to be addressed in the EIS, and decisions related to those actions. Table 4-1 represents a preliminary list of likely decisions and actions required for each component of the proposed project.

Table 4-1 Potential Agency Decisions and Actions

Agency	Permit/Approval Required
FEDERAL	
Bureau of Land Management	NEPA Implementation; Issuance of Right-of-way Grant
Department of Defense, Department of Homeland Security	Consultation Regarding Military Radar
Western Area Power Administration, an Agency of the U.S. Department of Energy	NEPA Implementation; Acquisition of Right-of-way Grant for Electrical Interconnection Facility/Substation; Decision whether or not to grant interconnection
Federal Aviation Administration	Aviation Hazard Clearance; Approval of Lighting Plan
U.S. Army Corps of Engineers	Clean Water Act, Section 404, Nationwide Permit 12
U.S. Fish and Wildlife Service	Endangered Species Act, Section 7, Consultation and Biological Opinion
STATE	
Nevada Department of Wildlife	Project Review Including Wildlife and Habitat Consultation
State Historic Preservation Office	Section 106, Consultation under National and State Historic Preservation Acts
Nevada Public Utility Commission	Utility Environmental Protection Act Compliance
Nevada Department of Transportation	State and County Right-of-way Encroachment Permits; Oversize/Overweight Permits
Nevada Division of Environmental Protection	402 National Pollutant Discharge Elimination System General Stormwater Permit for Construction Activities and 401 Water Quality Certification. O&M SWPPP and SPCCP
Nevada Division of Water Resources	Well Permit
Nevada State Fire Marshall	Hazardous Materials Storage Permit; Nevada Combined Agency Permit; Tier II Compliance
LOCAL	
Clark County Comprehensive Planning	Special use permit; Waiver of Development Standards; Building Permit
Clark County Regional Flood Control District	Federal Emergency Management Agency Map Review and Clark County Regional Flood Control District Plan Compliance
Clark County Health District Air Pollution Control Division	Dust Control Permit; Grading Permit
Clark County Health District	Septic System Permit
Clark County Fire Department	Blasting Permits (if necessary)

Notes: NEPA = National Environmental Policy Act; O&M = operations and maintenance; SPCCP = spill prevention control and countermeasures plan; SWPPP = stormwater pollution prevention plan

APPENDIX A

ANNOUCEMENTS

Notice of Intent
Newsletter
Display Advertisement
Press Release

(1) advise other Federal and State agencies and the public of our intention to conduct detailed planning on this refuge, and (2) obtain suggestions and information on the scope of topics to consider in the environmental document and during development of the CCP.

Background

The CCP Process

The National Wildlife Refuge System Improvement Act of 1997 (Improvement Act) (16 U.S.C. 668dd–668ee), which amended the National Wildlife Refuge System Administration Act of 1966, requires us to develop a CCP for each national wildlife refuge. The purpose for developing a CCP is to provide refuge managers with a 15-year plan for achieving refuge purposes and contributing toward the mission of the National Wildlife Refuge System (NWRS), consistent with sound principles of fish and wildlife management, conservation, legal mandates, and our policies. In addition to outlining broad management direction on conserving wildlife and their habitats, CCPs identify wildlife-dependent recreational opportunities available to the public, including opportunities for hunting, fishing, wildlife observation and photography, and environmental education and interpretation. We will review and update the CCP at least every 15 years in accordance with the Improvement Act and NEPA.

We establish each unit of the NWRS for specific purposes. We use these purposes as the basis to develop and prioritize management goals and objectives for the refuge within the NWRS mission, and to determine how the public can use the refuge. The planning process is a way for us and the public to evaluate management goals and objectives for the best possible conservation approach to this important wildlife habitat, while providing for wildlife-dependent recreation opportunities that are compatible with the refuge's establishing purposes and the mission of the NWRS. Our CCP process provides opportunities for Tribal, State, and local governments; agencies; organizations; and the public to participate. At this time, we encourage the public to provide input in the form of issues, concerns, ideas, and suggestions for the future management of John Hay NWR.

We will conduct the environmental review of this environmental assessment in accordance with the requirements of NEPA, as amended (42 U.S.C. 4321 *et seq.*); NEPA regulations (40 CFR parts 1500–1508); other appropriate Federal laws and regulations; and our policies and procedures for compliance with those laws and regulations.

John Hay National Wildlife Refuge

John Hay NWR was the former summer estate of historic figure John Hay. It was donated to the Service in 1972 by Alice Hay to be used as a migratory bird and wildlife reservation. Currently, the refuge consists of approximately 80 acres on the shores of Lake Sunapee in Newbury, New Hampshire, and consists of upland northern forests, and undeveloped shoreline. These areas serve the habitat needs of waterfowl, wading birds, and raptors.

Scoping: Preliminary Issues, Concerns, and Opportunities

We have identified preliminary issues, concerns, and opportunities that we may address in the CCP. We have briefly summarized these issues below. During public scoping, we may identify additional issues.

Public use throughout the refuge will be reevaluated in relation to wildlife-dependent recreation and other mission compatible uses. These include an ADA-compliant interpretive nature trail, overlooks, and a trailhead at the Fells parking area. We will also explore different visitor use options for the refuge.

Access to the refuge from the adjacent Fells property needs to be coordinated in terms of the use of their parking area or the creation of a second parking area, and the establishment of a trailhead or other interpretive information on their property.

We need to address how the Service can create a more visible presence at the refuge and the adjacent Fells property. Potential avenues are through signs, kiosks, and seasonal staff.

Public Meetings

We will involve the public through open houses, informational and technical meetings, and written comments. We will release mailings, news releases, and announcements to provide information about opportunities for public involvement in the planning process. You can obtain the schedule from the planning team leader or project leader (see **ADDRESSES**). You may also submit comments anytime during the planning process by mail, electronic mail, or fax (see **ADDRESSES**). There will be additional opportunities to provide public input once we have prepared a draft CCP.

We anticipate that public meetings will be held in Newbury, New Hampshire. For specific information including dates, times, and locations, contact the project leader (see **ADDRESSES**) or visit our Web site at *http://www.fws.gov/northeast/johnhay.*

Public Availability of Comments

Our practice is to make comments, including names, home addresses, home phone numbers, and electronic mail addresses of respondents available for public review. Individual respondents may request that we withhold their names and/or home addresses, etc., but if you wish us to consider withholding this information, you must state this prominently at the beginning of your comments. In addition, you must present a rationale for withholding this information. This rationale must demonstrate that disclosure would constitute a clearly unwarranted invasion of privacy. Unsupported assertions will not meet this burden. In the absence of exceptional, documentable circumstances, this information will be released. We will always make submissions from organizations or businesses, and from individuals identifying themselves as representatives of or officials of organizations or businesses, available for public inspection in their entirety.

Dated: October 1, 2008.

Wendi Weber,

Acting Regional Director, Northeast Region, U.S. Fish and Wildlife Service, Hadley, Massachusetts.

[FR Doc. E8–28914 Filed 12–15–08; 8:45 am]

BILLING CODE 4310–55–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLNV050000–L51010000.ER0000.F8740000; NVN–084626; 09–08807; TAS: 14X5017]

Proposed Wind Energy Project, Searchlight, NV

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent to prepare an environmental impact statement (EIS).

SUMMARY: In compliance with the National Environmental Policy Act (NEPA) of 1969, 42 U.S.C. 4321 *et seq.*, the Bureau of Land Management (BLM), Las Vegas Field Office will prepare an EIS for a wind energy project located on public lands in Clark County, Nevada.

DATES: This notice initiates the public scoping process. Comments on issues may be submitted in writing until February 17, 2009. Any scoping meetings will be announced 15 days in advance through local news media and

the BLM Web site at: *http://www.nv.blm.gov/vegas/default.html.*

ADDRESSES: Submit comments related to the project by any of the following methods:

- *E-mail: mchandle@nv.blm.gov*
- *Fax:* (702) 515–5064 (attention Mark Chandler)
- *Mail:* BLM Las Vegas Field Office, 4701 North Torrey Pines Drive, Las Vegas, NV 89130–2301

Documents pertinent to this project may be examined at the Las Vegas Field Office. Additional opportunities for public participation will be provided on publication of the draft EIS.

FOR FURTHER INFORMATION CONTACT: For further information and/or to have your name added to the mailing list, call Mark Chandler, (702) 515–5064; or e-mail *mchandle@nv.blm.gov.*

SUPPLEMENTARY INFORMATION: Searchlight Wind Energy, LLC, has submitted an application for the construction, operation, maintenence, and termination of a wind energy generation site. The proposed project would consist of 156 wind turbine generators and related rights-of-way appurtenances, including a substation administered by the Western Area Power Administration east of Searchlight, Nevada. The proposed wind energy project would produce approximately 359 megawatts of electricity. The proposed project site will be located on approximately 24,383 acres of public lands surrounding the town of Searchlight, Nevada.

Issues that are anticipated to be addressed in this EIS include visual impacts, avian impacts, socioeconomic impacts, electrical transmission capacity, and cumulative impacts.

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Federal, State, and local agencies, as well as individuals or organizations that may be interested in or affected by the BLM's decision on this project are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate as a cooperating agency.

Authority: 43 CFR 2800.

Dated: December 4, 2008.

Kimber Liebhauser,

Assistant Field Manager, Lands Division, Las Vegas Field Office.

[FR Doc. E8–29686 Filed 12–15–08; 8:45 am]

BILLING CODE 4310–HC–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLID100000–L10200000–PH0000]

Notice of Public Meeting, Idaho Falls District Resource Advisory Council Meeting

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of public meetings.

SUMMARY: In accordance with the Federal Land Policy and Management Act (FLPMA) and the Federal Advisory Committee Act of 1972 (FACA), the U.S. Department of the Interior, Bureau of Land Management (BLM) Idaho Falls District Resource Advisory Council (RAC), will meet as indicated below.

DATES: The RAC will next meet in Idaho Falls, Idaho on January 20–21, 2009 for a two-day meeting. The first day will be new member orientation in the afternoon starting at 2 p.m. at the Idaho Falls BLM Office, 1405 Hollipark Drive, Idaho Falls, Idaho. The second day will be at the same location starting at 8 a.m. with electing a new chairman, vice chairman and secretary. Other meeting topics include noxious weeds, power line corridors, Snake River Activity Operations Plan, Upper Snake RMP and Recreation RAC items. Other topics will be scheduled as appropriate. All meetings are open to the public.

SUPPLEMENTARY INFORMATION: The 15-member Council advises the Secretary of the Interior, through the Bureau of Land Management, on a variety of planning and management issues associated with public land management in the BLM Idaho Falls District (IFD), which covers eastern Idaho.

All meetings are open to the public. The public may present written comments to the Council. Each formal Council meeting will also have time allocated for hearing public comments. Depending on the number of persons wishing to comment and time available, the time for individual oral comments may be limited. Individuals who plan to attend and need special assistance, such as sign language interpretation, tour transportation or other reasonable accommodations, should contact the BLM as provided below.

FOR FURTHER INFORMATION CONTACT: Joanna Wilson, RAC Coordinator, Idaho Falls District, 1405 Hollipark Dr., Idaho Falls, ID 83401. Telephone: (208) 524–7550. E-mail: *Joanna_Wilson@blm.gov.*

Dated: December 8, 2008.

Joanna Wilson,

RAC Coordinator, Public Affairs Specialist.

[FR Doc. E8–29709 Filed 12–15–08; 8:45 am]

BILLING CODE 4310–GG–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[WY–923–1310–FI; WYW172444]

Wyoming: Notice of Proposed Reinstatement of Terminated Oil and Gas Lease

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of proposed reinstatement of terminated oil and gas lease.

SUMMARY: Under the provisions of 30 U.S.C. 188(d) and (e), and 43 CFR 3108.2–3(a) and (b)(1), the Bureau of Land Management (BLM) received a petition for reinstatement from Chesapeake Exploration, L.L.C. for competitive oil and gas lease WYW172444 for land in Converse County, Wyoming. The petition was filed on time and was accompanied by all the rentals due since the date the lease terminated under the law.

FOR FURTHER INFORMATION CONTACT: Bureau of Land Management, Pamela J. Lewis, Chief, Branch of Fluid Minerals Adjudication, at (307) 775–6176.

SUPPLEMENTARY INFORMATION: The lessee has agreed to the amended lease terms for rentals and royalties at rates of $10.00 per acre, or fraction thereof, per year, and 16⅔ percent, respectively. The lessee has paid the required $500 administrative fee and $163 to reimburse the Department for the cost of this **Federal Register** notice. The lessee has met all the requirements for reinstatement of the lease as set out in Sections 31(d) and (e) of the Mineral Lands Leasing Act of 1920 (30 U.S.C. 188), and the Bureau of Land Management is proposing to reinstate lease WYW172444 effective June 1, 2008, under the original terms and conditions of the lease and the increased rental and royalty rates cited

Bureau of Land Management
Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-2301

Public Meeting Announcement

Please attend one of the following scoping meetings to help identify the range, or scope, of issues related to the Searchlight Wind Energy Project. The issues identified during the scoping process will be considered and addressed during preparation of the Environmental Impact Statement. All meetings will be held in an open house format with a brief presentation.

SEARCHLIGHT
Tuesday, January 27, 2009
4 pm – 7 pm;
presentation at 4:30 pm
Searchlight Community Center
200 Michael Wendell Way
Searchlight, NV 89046

LAUGHLIN
Wednesday, January 28, 2009
6 pm – 9 pm;
presentation at 6:30 pm
William G. Bennett
Elementary School
2750 South Needles Hwy
Laughlin, NV 89029

BOULDER CITY
Thursday, January 29, 2009
5 pm – 8 pm;
presentation at 5:30 pm
Boulder City Library
701 Adams Blvd
Boulder City, NV 89005

Participants will have the opportunity to submit verbal or written comments at all meetings.

Bureau of Land Management Draft EIS

Searchlight
WIND ENERGY PROJECT

January 2009

Introduction

The Bureau of Land Management (BLM) is preparing an Environmental Impact Statement (EIS) for the proposed Searchlight Wind Energy project. Searchlight Wind Energy, LLC has submitted an application for the construction, operation, and maintenance of a wind energy generation site on public lands adjacent to the town of Searchlight, Nevada. The first step in the EIS process is public scoping to identify issues and concerns that should be addressed in the EIS. The 60-day public scoping period for the Searchlight Wind Energy Project was initiated on December 16, 2008. This newsletter is being provided to potentially interested parties to describe the project, announce public scoping meetings, and provide opportunities to comment on the project.

Project Description

Searchlight Wind, LLC is proposing to develop an approximately 370 megawatt (MW) wind energy facility consisting of up to 161 wind turbine generators. The project is located on 24,383 acres of public lands east of Searchlight, Nevada (see attached map on page 3). The facility, depending upon the wind, would have the capacity to generate enough electricity to power over 100,000 households. This assumes an average household use of approximately 9,000 kilo watt hours per year.

The proposed wind turbine towers would be up to 262 feet tall from the ground to the hub with blades extending up to an additional 153 feet. The total height of each turbine would be up to 415 feet.

In addition to the wind turbines, the proposed project would require the construction of new access roads, an overhead transmission line, two electrical substations, an electrical interconnection facility/switchyard, an operations and maintenance building, and temporary and permanent laydown areas. Five permanent meteorological masts would be installed on the site to measure the wind speed and direction across the site over the life of the project. The exact areas of each component are subject to change as the project design develops and the EIS process proceeds.

The EIS Process

The proposed facilities would be on public land managed by the BLM; therefore, the project is considered a Federal action requiring review under and compliance with the National Environmental Policy Act of 1969 (NEPA). Under NEPA, actions such as the Searchlight Wind Energy Project must consider the potential effects on the environment including human, natural, and cultural resources.

Human Environment – land use, social and economic conditions, environmental justice, visual characteristics, noise

Natural Environment – air, geology, soils, water, vegetation, wildlife, special status and avian species

Cultural Environment – prehistoric and historic archaeological sites, and traditional cultural lifeways and resources

BLM

Las Vegas Field Office / Nevada

The NEPA process for the proposed project is anticipated to occur within a 24-28 month timeframe and consist of several steps depicted in the flow chart below.

At this early stage in the process, BLM (the lead Federal agency) will identify the range or scope of public and agency issues through comments received in meetings and discussions with relevant agencies and the public.

Once the BLM has an understanding of the issues, the study team will begin to gather data on resources within the study area. Based on the description of the proposed project and any alternatives to be evaluated; issues identified; and resource data, the EIS team will assess potential impacts that could result from the project and identify measures to mitigate, or reduce those impacts.

Public Scoping

BLM understands the importance of involving the public and agencies in the planning process. During public scoping, BLM encourages comments to identify issues and concerns that are important in the region and that need to be addressed in the EIS.

The first opportunity for you to participate will be the upcoming public scoping meetings. These public meetings are planned for **Boulder City, Searchlight, and Laughlin, Nevada** in January of 2009 as noted on the back of this newsletter. These meetings also will be announced in local newspapers and at www.nv.blm.gov/vegas/default.html. Comments can be submitted orally or in writing at the public meetings, as well as by mail, fax or e-mail. Comments will be most helpful in the preparation of the Draft EIS if they are submitted by February 17, 2009.

The scoping meetings will be held in an open house format, with a brief presentation to provide an overview of the project and EIS process. Project team members will be available at display stations to answer questions and take note of your comments.

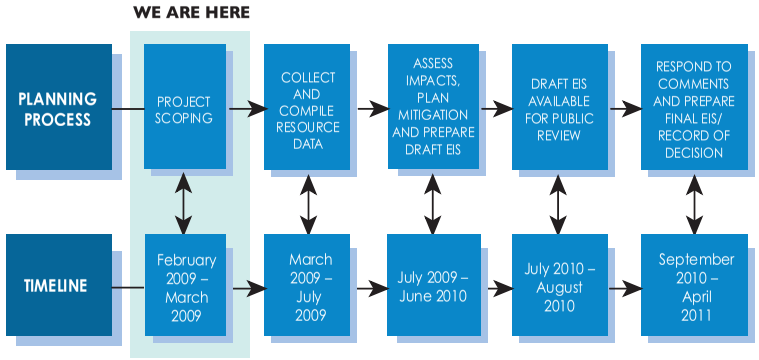
BLM will provide opportunities to comment on the status of the project throughout the EIS process. Preliminary work on the Draft EIS has already started; the scoping process will help BLM identify issues not already considered in the Draft and help in the formulation of the alternatives to be presented in the Draft. A Notice Of Availability (NOA) will be published by the BLM and the Environmental Protections Agency (EPA) in the Federal Register when the Draft EIS is published. The EPA-NOA starts the 45-day public review and comment period where BLM will conduct public meetings to accept comments on the draft document. Written comments will be accepted during that time.

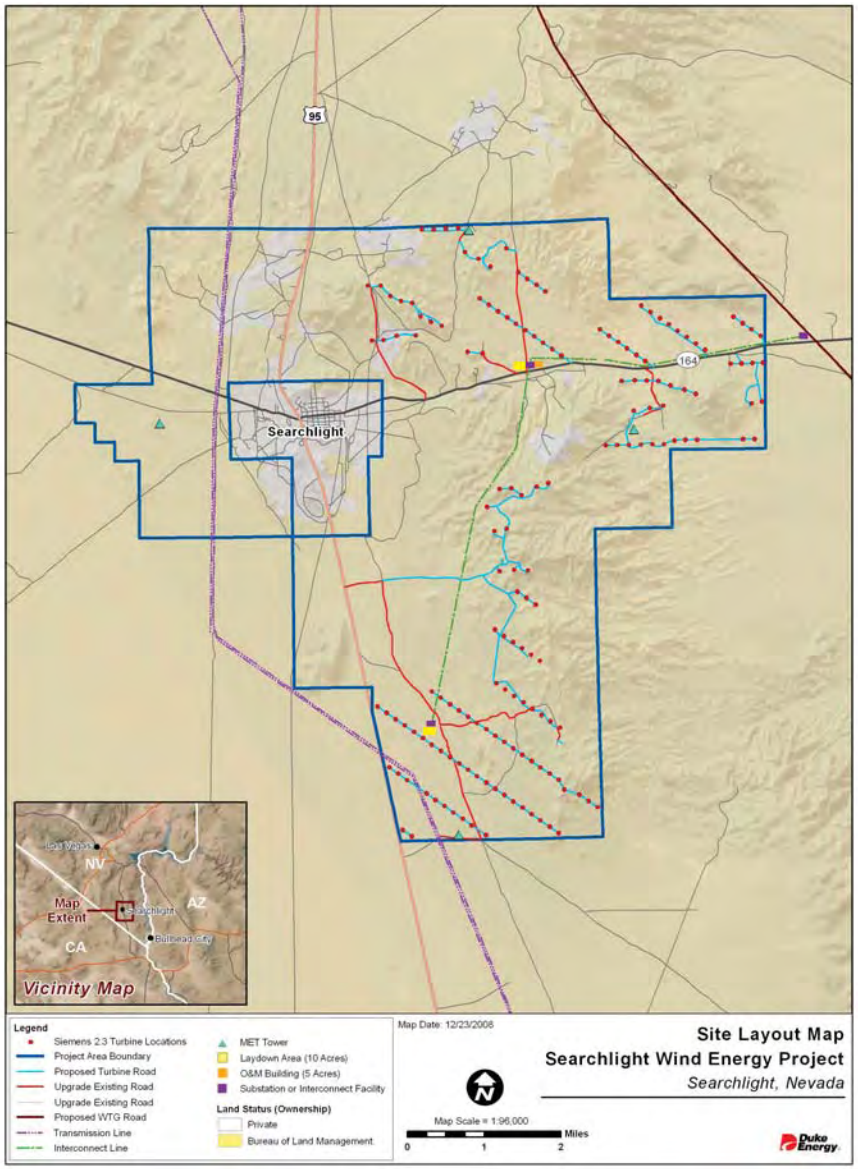
If you have questions, would like to be on the mailing list, or would like to speak to a project representative, please use the contact information below.

How to Submit Written Comments

Remember, comments will be most helpful if submitted in writing by February 17, 2009.

E-mail: Searchlight_Wind_Energy_EIS@blm.gov
Fax: 702-515-5010
Mail: BLM Las Vegas Field Office,
4701 North Torrey Pines Drive,
Las Vegas, NV 89130-2301
Phone: 702-515-5000





SEARCHLIGHT WIND ENERGY PROJECT PUBLIC MEETING ANNOUNCEMENT

The Bureau of Land Management (BLM) is holding public scoping meetings to receive comments on a proposed wind energy project near the town of Searchlight, Nevada. Please plan to attend one of the following open house meetings:

SEARCHLIGHT
Tuesday,
January 27, 2009
4 pm – 7 pm;
brief presentation
at 4:30 pm
Searchlight Community Center
200 Michael Wendell Way
Searchlight, NV 89046

LAUGHLIN
Wednesday,
January 28, 2009
6 pm – 9 pm;
brief presentation
at 6:30 pm
William G. Bennett Elementary School
2750 South Needles Hwy
Laughlin, NV 89029

BOULDER CITY
Thursday,
January 29, 2009
5 pm – 8 pm;
brief presentation
at 5:30 pm
Boulder City Library
701 Adams Blvd.
Boulder City, NV 89005

For questions on this project please contact Mark Chandler, BLM Project Manager, at 702-515-5000.

PRESS RELEASE DISTRIBUTION LIST

General Media

Television Stations

KVBC TV 3
KVVU TV 5
KLAS TV 8
KLVX TV 10
KTNV TV 13
KVWB TV 21
KVMP 41
Telemundo 39

Newspapers

(Daily)
Las Vegas Review-Journal
Las Vegas Sun

(Weekly)
City Life
Boulder City News
LV Asian Journal
The Spectrum

(Other)
Associated Press
Henderson Home News
Jewish Reporter
High Country News
The Business Voice (Las Vegas Chamber of Commerce)
View Neighborhood Newspapers
Associated General Contractors
Pahrump Valley Times
Mesquite Local News

Radio

KNPR 89.5 FM
KNEWS 970, 1140, 1250 AM
KUNV 91.5 FM
KDWN 720 AM
KLAV 1230 AM
KNYE 95.1 FM
KXNT 840 AM
Metro Networks/Shadow Broadcasting
Highway Radio

Spanish Language

Entravision Communications
El Mundo Newspaper

Elected Officials

Senators

Harry Reid
John Ensign

Congressman

Shelly Berkley

State Senate

John Porter

Other

Public Affairs Office – City of Las Vegas
Public Communications Department – Clark County
Public Affairs Office – Humboldt-Toiyabe National Forest

BLM Nevada News

FOR IMMEDIATE RELEASE January 22, 2009

Contact: Hillerie Patton, 702-515-5046

BLM to hold Public Meetings on Wind Energy Proposal near Searchlight

LAS VEGAS – The Bureau of Land Management (BLM) Las Vegas Field Office is seeking public input on issues to address the development of a draft Environmental Impact Statement (EIS) on a wind-powered electric generating facility proposed near Searchlight. The meetings will be held Tuesday, January 27 at the Searchlight Community Center from 4 p.m. – 7 p.m.; Wednesday, January 28 at the William G. Bennett Elementary School in Laughlin from 6 p.m. – 9 p.m., and Thursday, January 29 at the Boulder City Library from 5 p.m. – 8 p.m. The meetings will be held in an open house format with a brief presentation.

The BLM published Notice of Intent (NOI) in the *Federal Register* on December 16, 2008. A notice of intent advises the public of the preparation of an EIS to evaluate any potential impacts, which could occur from the construction and operation of the project. These public meetings are the first step in the EIS study process. The wind generation facility would be located on approximately 24,383 acres near Searchlight, and could generate enough electricity for more than 90,000 homes. In addition to the 161 wind turbines that would be constructed, the project would require new access roads, an overhead transmission line, two electrical substations, and other facilities. The wind turbines could be up to 415 feet tall depending on final design.

The public is encouraged to submit written comments before February 17, 2009. Comments may be submitted in writing to: Searchlight_Wind_Energy_EIS@blm.gov, or to the BLM Las Vegas Field Office, 4701 North Torrey Pines Drive, Las Vegas, NV 89130-2301, 702.515.5010 (fax). For more information, please contact: Mark Chandler at 702-515-5064.

-BLM-

The BLM manages more land – 258 million acres – than any other Federal agency. This land, known as the National System of Public Lands, is primarily located in 12 Western States, including Alaska. The Bureau, with a budget of about $1 billion, also administers 700 million acres of sub-surface mineral estate throughout the nation. The BLM's multiple-use mission is to sustain the health and productivity of the public lands for the use and enjoyment of present and future generations. The Bureau accomplishes this by managing such activities as outdoor recreation, livestock grazing, mineral development, and energy production, and by conserving natural, historical, cultural, and other resources on public lands.

APPENDIX B

PUBLIC SCOPING MEETINGS

Boards
Presentation
Sign-in sheet
Comment form

Bureau of Land Management Draft EIS

SEARCHLIGHT
WIND ENERGY PROJECT

BLM

PUBLIC SCOPING MEETING

The BLM wants your input on the scope or range of issues related to the Searchlight Wind Energy Project. The issues identified during scoping will be considered and addressed during preparation of the Environmental Impact Statement (EIS).

Las Vegas Field Office / Nevada

Roles and Responsibilities

- **Duke Energy –**
  As the project proponent, Duke will develop, construct, and operate the Project.
- **BLM –**
  BLM manages the land on which the project is proposed. As the Responsible Lead Agency, BLM is responsible for preparing the EIS to comply with the National Environmental Policy Act (NEPA).
- **WAPA –**
  Participating as Cooperating Agency under NEPA, WAPA owns and operates the 230kV transmission line to which the Project will connect and deliver power into the electrical grid.
- **URS –**
  Third-party contractor assisting BLM with preparation of the EIS.

What is Scoping?

The National Environmental Policy Act requires that there shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. This process is termed Scoping. Scoping is a continual process that ensures the content of the environmental analysis is focused properly. Scoping is an opportunity for persons who would be affected or interested to provide input and to express their environmental concerns regarding the proposed project.

Overall scoping helps to:

- Identify the relevant issues related to the resources and values in the project area
- Identify feasible alternatives

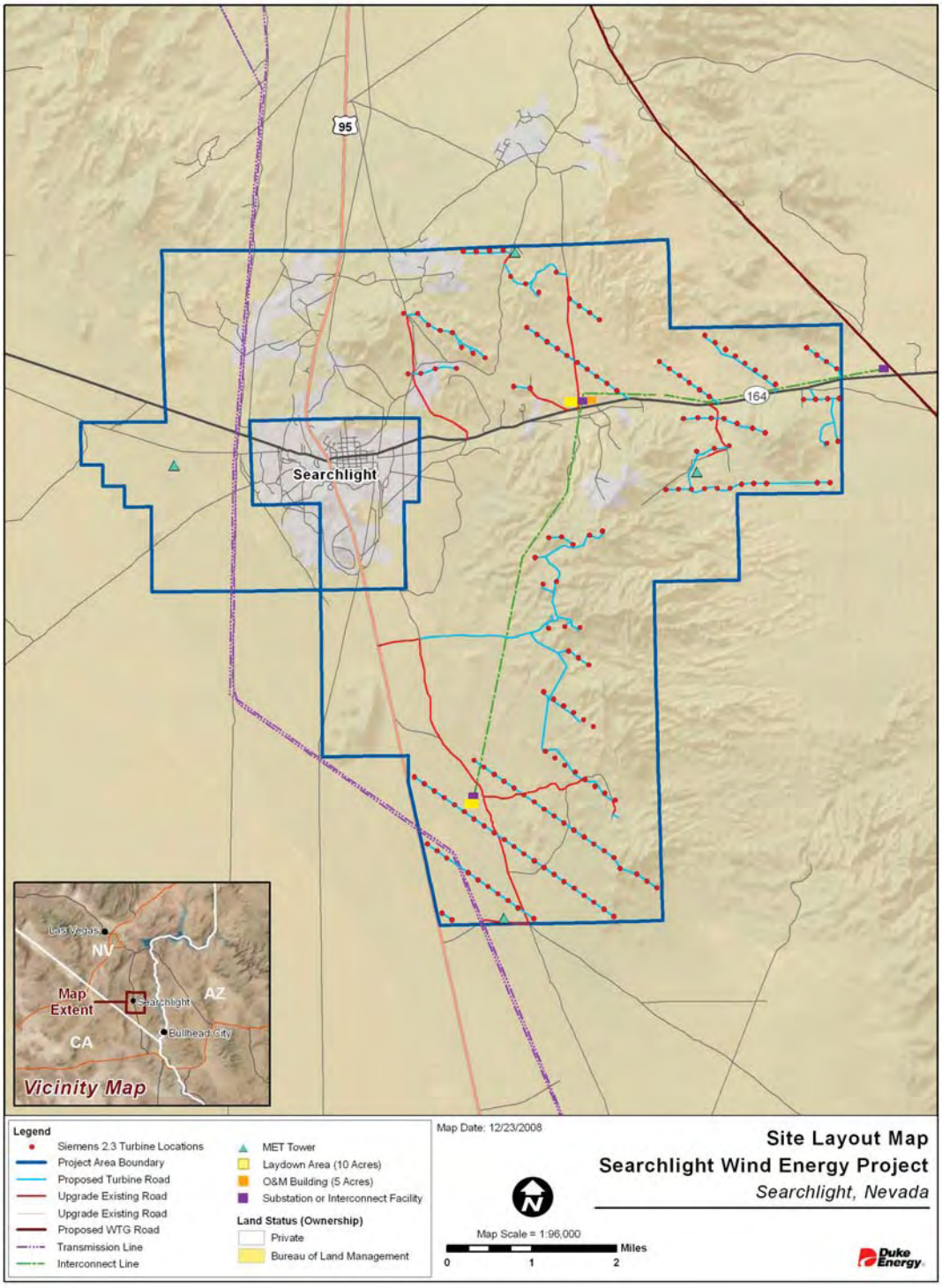
Purpose and Need

- To provide a local, domestic energy source
- To reduce greenhouse gas emissions that result from fossil fuel energy generation
- To fulfill many state and national renewable energy policies, including the Nevada Renewable Portfolio Standard (NRPS) (Assembly Bill 366, Senate Bill 372) which requires that 15 percent of all electricity generated in Nevada be renewable by the year 2013
- To serve existing and future needs for power in Nevada

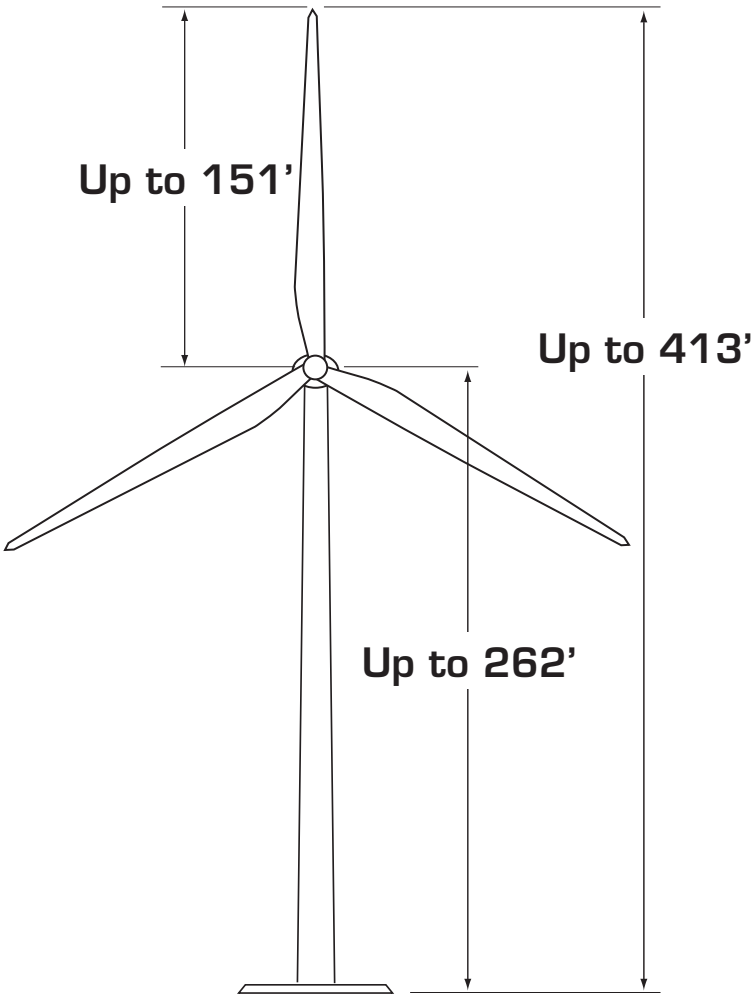
Project Description

- Facility will provide approximately 370 megawatts (MW) of electricity – power to more than 100,000 homes
- Facility components include:
  - 161 wind turbines
  - New and upgraded access roads
  - Overhead transmission lines
  - Operations and Maintenance (O&M) building
  - Electrical interconnection / switchyard
  - Two electrical substations
  - Two lay down areas (one temporary, one permanent)
  - Five permanent meteorological masts

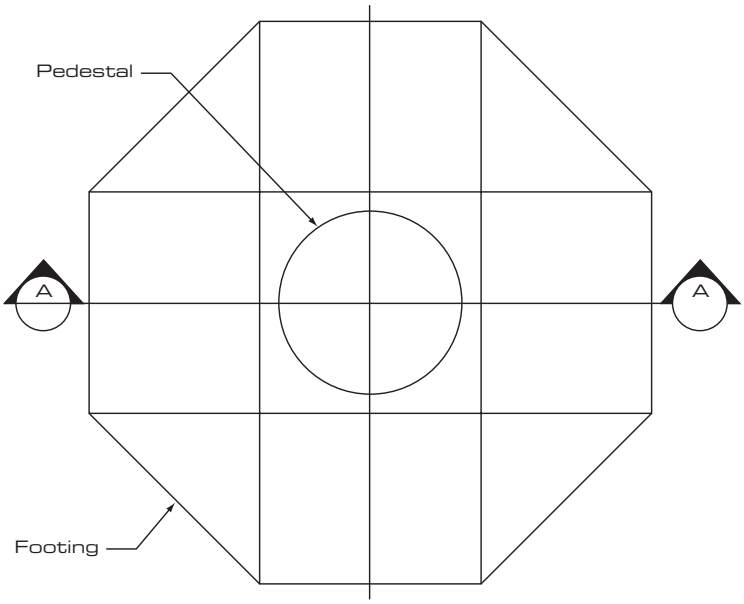
Project Location



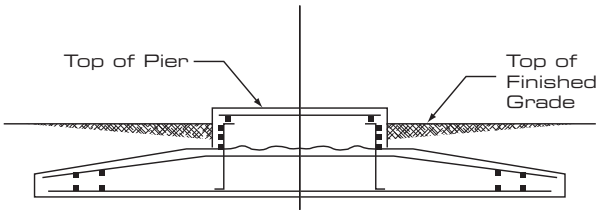
Typical Structure Example



Typical Wind Turbine Construction



WTG Foundation Plan



Section A-A

EIS Studies

The EIS will analyze the existing local environment and potential impacts that could occur as a result of the proposed project. Ways to mitigate, or reduce impacts on the environment will also be identified. Topics to be addressed in the EIS include:

Human Environment - land use, social and economic conditions, environmental justice, visual characteristics and noise

Natural Environment - air, geology, soils, water, vegetation, wildlife, special status and avian species

Cultural Environment – prehistoric and historic archaeological sites, and traditional cultural lifeways and resources

How to Make Your Comments Most Effective

One comment can make a difference.

- Identify specific information that should be considered during the EIS process
- Offer a specific idea of how to address a particular concern
- Provide specific information about how a particular element of the project would affect you
- Speak to a project team member if you have any questions on project information

Bureau of Land Management Draft EIS

SEARCHLIGHT
WIND ENERGY PROJECT

BLM

Public Information and Feedback Opportunities

- 60-day scoping period to identify initial project issues
- Scoping meetings

SEARCHLIGHT
Tuesday, January 27, 2009
4 pm – 7 pm;
presentation at 4:30 pm
Searchlight Community Center
200 Michael Wendell Way
Searchlight, NV 89046

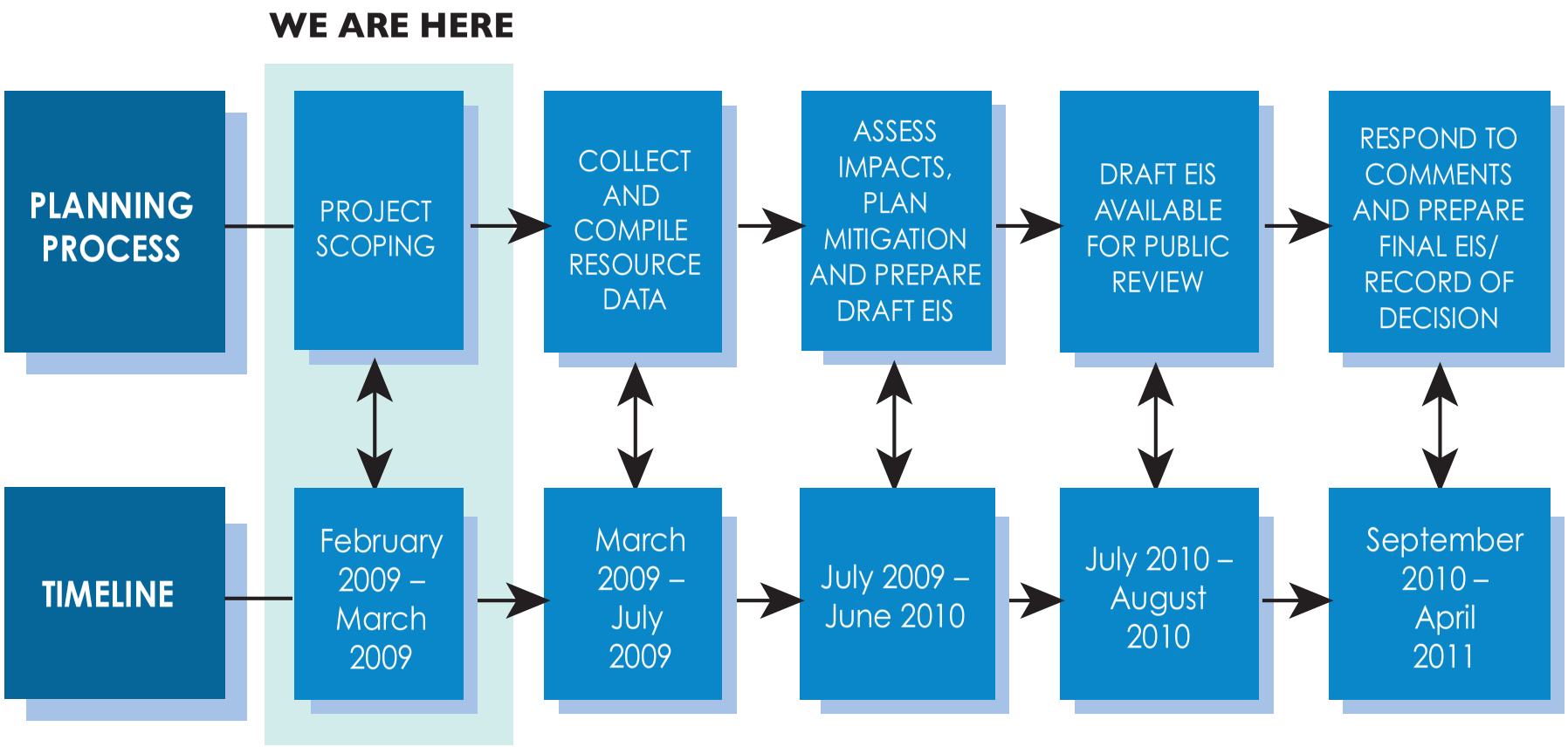
LAUGHLIN
Wednesday, January 28, 2009
6 pm – 9 pm;
presentation at 6:30 pm
William G. Bennett
Elementary School
2750 South Needles Hwy
Laughlin, NV 89029

BOULDER CITY
Thursday, January 29, 2009
5 pm – 8 pm;
presentation at 5:30 pm
Boulder City Library
701 Adams Blvd.
Boulder City, NV 89005

- Public meetings and 45-day public review period on Draft EIS in fall 2010
- Mailing list and newsletter updates throughout the project
- Contact BLM Project Manager Mark Chandler, 702.515.5000

Las Vegas Field Office / Nevada

Planning Process



Bureau of Land Management Draft EIS

SEARCHLIGHT

WIND ENERGY PROJECT

PUBLIC SCOPING MEETINGS

January 2009

BLM

Las Vegas Field Office / Nevada

Project Team

- Duke Energy
  (Searchlight Wind Energy, LLC)
- Bureau of Land Management (BLM)
- Western Area Power Administration (Western)
- URS (NEPA consultant)

Need for Agency Action

- BLM is responding to an application from Searchlight Wind Energy, LLC for land use permits.
- Western is responding to an application to interconnect the proposed wind energy facility with Western' electrical transmission system.

Purpose of Meeting

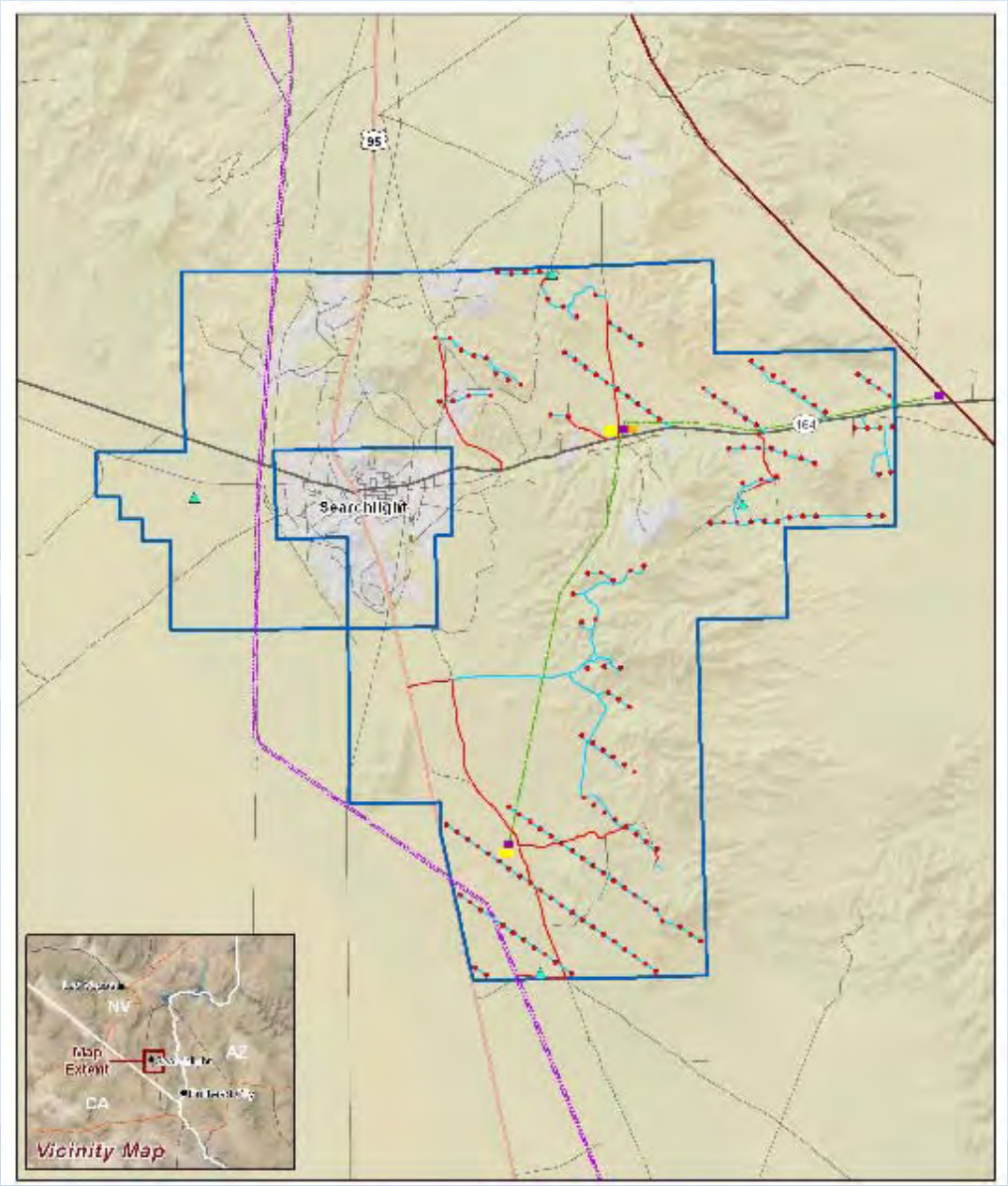
- To provide information to you regarding the proposed project.
- To hear your issues and concerns related to the proposed project.

What is Scoping?

- Helps to identify issues that should be addressed in the EIS.
- Helps to identify feasible alternatives that should be evaluated in the EIS.
- Provides the public and other interested parties the opportunity to express comments and concerns.

Project Description

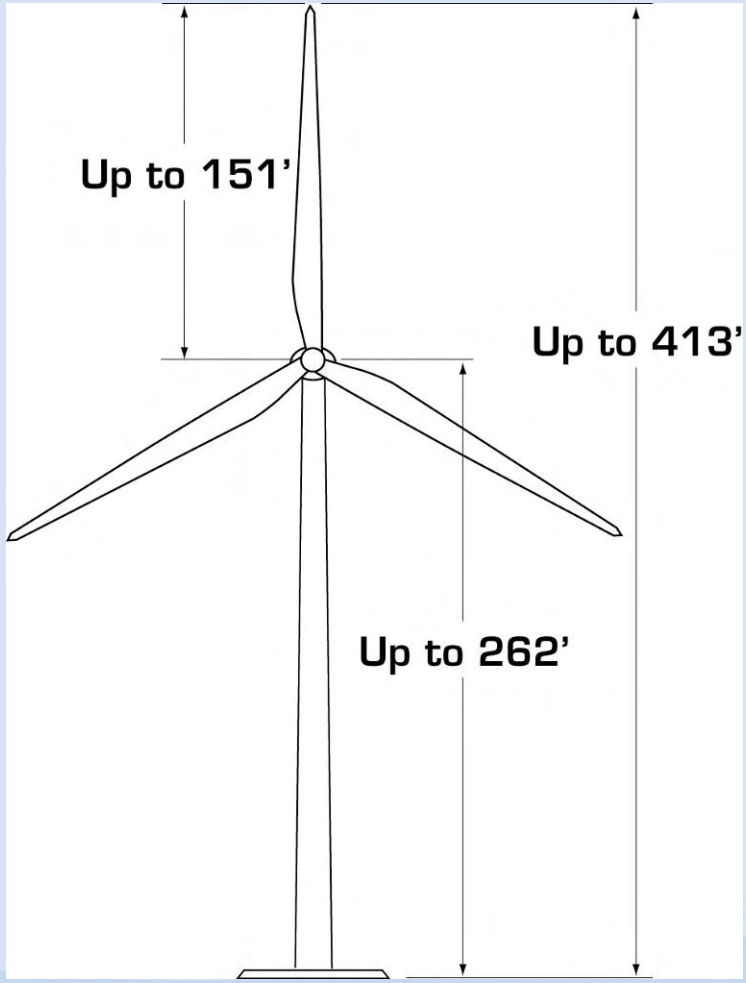
- Located on 24,383 acres of public land in the vicinity of Searchlight, Nevada



Project Description

- Would generate up to 370 megawatts of electricity
- Up to 161 wind turbines
- Power delivery over Western's Mead-Davis 230-kV transmission line
- Associated facilities
  - Access roads
  - Transmission lines
  - Switchyard/substations
  - Meteorological masts
  - Operations and maintenance facility

Project Description



National Environmental Policy Act (NEPA)

- "The National Environmental Policy Act is our basic national charter for protection of the environment." [40 CFR Part 1500.1(a)]
- An Environmental Impact Statement (EIS) will be prepared in compliance with NEPA.

Resources to be Analyzed

- Land uses
- Visual resources
- Noise
- Biological resources
- Cultural resources
- Air quality
- Geology and soils
- Water resources
- Socioeconomic conditions
- Environmental justice
- Public health and safety
- Environmental regulatory compliance
- Other resources as directed by BLM

Studies Proposed and Underway

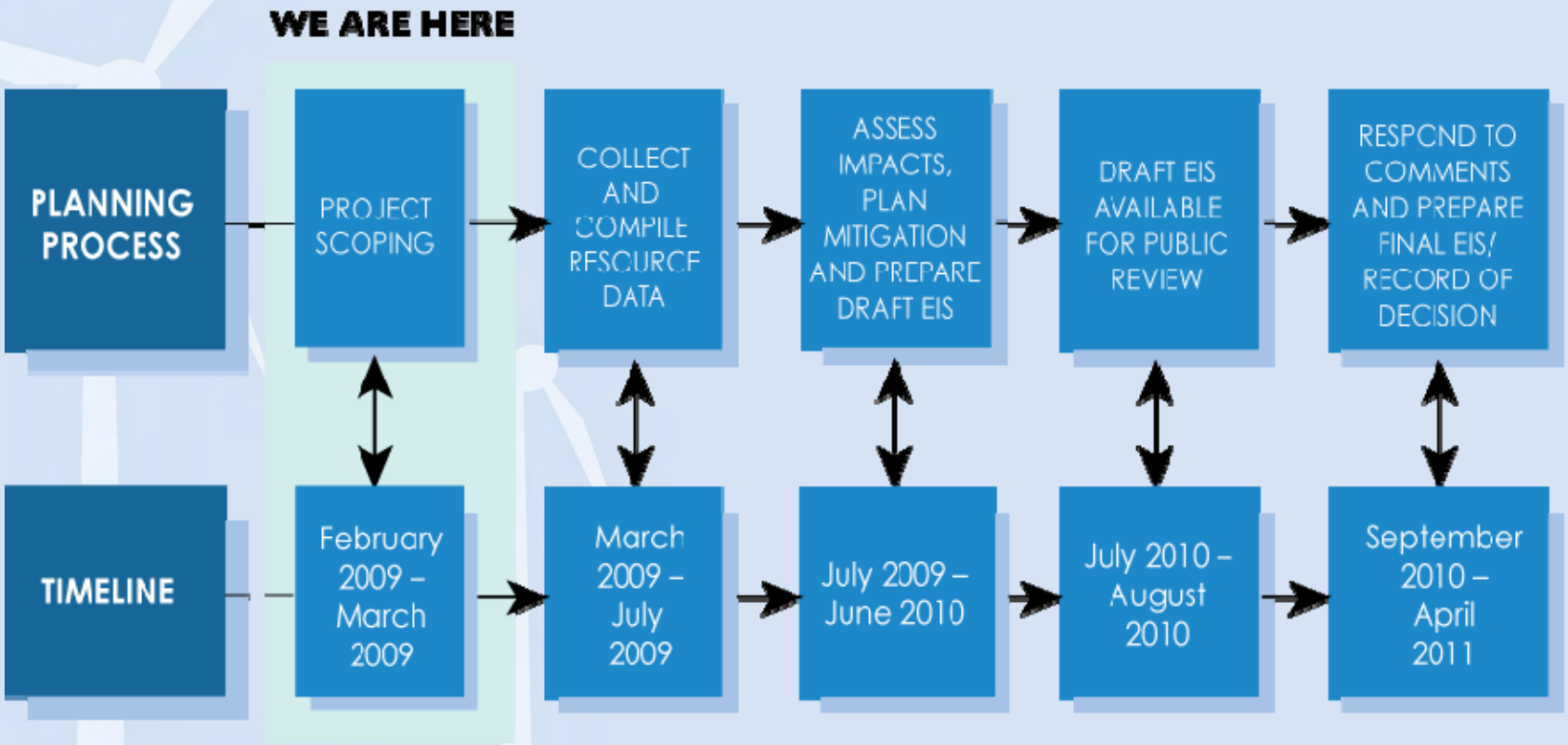
Studies Underway

- Avian and bat surveys
- Aerial photographs
- Refined topography mapping

Proposed Studies

- Sociological and economic study
- Visual studies and simulations of the proposed project
- Noise studies

NEPA Process



How You Can Participate

- Complete a comment form with your name and address.
- Submit written comments to:
  - Searchlight_Wind_Energy_EIS@blm.gov
  - Fax: 702-515-5010
  - BLM Las Vegas Field Office
    4701 N. Torrey Pines Drive
    Las Vegas, NV 89130-2301

How You Can Participate

- Public meetings and 45-day review period on Draft EIS
- Mailing list and newsletter updates throughout the project
- www.nv.blm.gov/vegas/default.html
- Contact BLM Project Manager Mark Chandler, 702-515-5000

How to Make Your Comments Most Effective

One comment can make a difference.

- Identify specific information that should be considered during the EIS process.
- Offer a specific idea of how to address a particular concern.
- Provide specific information about how a particular element of the project would affect you.

Bureau of Land Management Draft EIS

SEARCHLIGHT
WIND ENERGY PROJECT

Scoping Meeting Sign In Form

January 2009

BLM

Las Vegas Field Office / Nevada

PLEASE SIGN IN

Date: _____

Name	Mailing Address	Phone Number	Do you wish to be added to the mailing list for this project?
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

Copies of this sign-in form may become part of the public record associated with this proposed project. Individuals requesting that their name and address be withheld from public review or from disclosure under the Freedom of Information Act must check "Yes" in the personal information column. Such requests will be honored to the extent allowed by law.

Bureau of Land Management Draft EIS

SEARCHLIGHT
WIND ENERGY PROJECT

BLM

SCOPING COMMENT FORM

Bureau of Land Management, Las Vegas Field Office/Nevada

At this early stage in the planning process, the Bureau of Land Management (BLM) is holding scoping meetings to help identify the range, or scope, of issues related to the Searchlight Wind Energy Project. The issues identified by the public during the scoping process will be considered and addressed during preparation of the environmental impact statement. Please take a few minutes to answer the questions below and return this sheet as addressed on the other side. Comments would be most helpful if received on or before the scoping period closing date of **February 17, 2009.**

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing list.

Meeting Location: _____

Your Name: _____ Name: _____

Address: _____ Address: _____

City/State/Zip: _____ City/State/Zip: _____

Please check all that apply:

__ Add my name to the mailing list for this project

__ Do not include my name on the mailing list

__ Withhold my name/address to extent allowed by law (only for persons not representing organizations)*

*All comments received by BLM become part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.

1. Please describe any issues or concerns that should be addressed in the environmental impact statement. _____

2. Please provide any other comments you may have on the overall project. _____

Fold, tape top of form, and mail your comments to the address below:

Mark Chandler
BLM Project Manager
BLM Las Vegas Field Office
4701 N. Torrey Pines Dr.
Las Vegas, Nevada 89130

Place stamp here

Appendix A-2: Notice of Availability and Publications

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLNVSO3100 L51010000 ER0000 LVRWF09F8740.241A; 12–08807; MO# 4500027523; TAS: 14X5017]

Notice of Availability of the Draft Environmental Impact Statement and Notice of Segregation for the Searchlight Wind Energy Project, Clark County, NV

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of availability.

SUMMARY: In accordance with the National Environmental Policy Act of 1969, as amended, the Bureau of Land Management (BLM) has prepared a Draft Environmental Impact Statement (EIS) for the Searchlight Wind Energy Project and by this notice is announcing the opening of the comment period. Publication of this notice also serves to segregate the identified lands from appropriation under the public land laws for a period of 2 years, including location under the Mining Law, but not the Mineral Leasing Act or the Materials Act, subject to valid existing rights.

DATES: To ensure comments will be considered, the BLM must receive written comments on the Searchlight Wind Energy Project Draft EIS within 90 days following the date the Environmental Protection Agency publishes this Notice of Availability in the **Federal Register**. The BLM will announce future meetings or hearings and any other public involvement activities at least 15 days in advance through public notices, media releases, and/or mailings.

ADDRESSES: You may submit comments related to the Searchlight Wind Energy Project by any of the following methods:

- *Web site: http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy/searchlight_wind_energy.html*
- *Email: BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov.*
- *Fax:* (702) 515–5010, attention Gregory Helseth.
- *Mail:* BLM Las Vegas Field Office, Attn: Gregory Helseth, 4701 North Torrey Pines Drive, Las Vegas, NV 89130–2301.

Copies of the Searchlight Wind Energy Project are available in the Las Vegas Field Office at the above address.

FOR FURTHER INFORMATION CONTACT: Gregory Helseth, Renewable Energy Project Manager, (702) 515–5173; 4701 North Torrey Pines Drive, Las Vegas, NV 89130–2301; email: *BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov.* Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1–(800) 877–8339 to contact the above individual during normal business hours. The FIRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: Searchlight Wind Energy, LLC (SWE), a wholly owned subsidiary of Duke Energy, applied to the BLM for a right-of-way (ROW) grant on public lands to develop a 200-megawatt (MW) wind energy facility. The ROW application area encompasses approximately 18,789.71 acres of BLM-administered public lands adjacent to Searchlight, located approximately 60 miles southeast of Las Vegas, in Clark County, Nevada. The project is in conformance with the 1998 Las Vegas Resource Management Plan.

The proposed wind turbines would be up to 262-feet-tall from the ground to the hub with blades extending up to an additional 153 feet. The total height of each turbine would be up to 415 feet. In addition to the wind turbines, the proposed project would require the construction of new access roads, two electrical substations, an overhead transmission line connecting the two substations, an electrical interconnection facility/switchyard owned and operated by Western Area Power Administration (Western), an operations and maintenance building, and temporary and permanent laydown areas. Three permanent meteorological masts would remain on the site to measure the wind speed and direction across the site over the life of the project.

SWE has requested to interconnect its proposed project to the electrical transmission grid via Western's Davis-Mead 230-kilovolt (kV) transmission line. Western, a Federal agency, is participating in the EIS process as a cooperating agency and may use the EIS to support its decision to approve or deny SWE's interconnection request. Western has also submitted a ROW application to the BLM for construction and operation of the electrical interconnection facility/switchyard, which is analyzed as part of this EIS.

The proposed action analyzed in the Draft EIS is to approve the project in response to the applications received from SWE and Western. Three alternatives are analyzed in the Draft EIS—an 87 wind turbine layout, a 96 wind turbine alternative, and a no-action alternative. The 87 wind turbine alternative is the BLM's preferred alternative and has a smaller footprint than the 96 wind turbine alternative. The Draft EIS describes and analyzes the project's site-specific impacts on air quality, biological resources, cultural resources, environmental justice, geological resources, human health, and hazardous materials, lands and realty, noise, noxious weeds, paleontological resources, recreation, socioeconomic resources, transportation, visual resources and water resources.

A Notice of Intent was published in the **Federal Register** on December 16, 2008 (73 FR 76377). The BLM held three public scoping meetings in Searchlight, Laughlin, and Boulder City, Nevada, on January 27, 28, and 29, 2009, respectively. The formal scoping period ended on February 17, 2009. Sixty-six comment submissions were received, which identified 384 issues. The issues are grouped into 14 main issue categories: Process, project alternatives, project description, project need, air quality, cultural, hazardous materials, land use, noise, socioeconomics, vegetation, visual, water, and cumulative impacts.

Maps of the proposed project area and the alternatives analyzed in the Draft EIS are available at the Las Vegas Field Office. Please note that public comments and information submitted will be available for public review and disclosure at the above address during regular business hours (8 a.m. to 4 p.m.), Monday through Friday, except holidays. Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

In connection with its processing of SWE's and Western's application, the BLM is also segregating the public lands within the project application area for the project from appropriation under public land laws, including the Mineral Law of 1872, as amended, but not the Mineral Leasing or the Material Sales Acts, for a period of 2 years from the date of publication of this notice. This is done under the authority contained in 43 CFR 2091.3–1(e) and 43 CFR 2804.25(e), and is subject to valid existing rights. The public lands contained within this temporary segregation total approximately 18,789.71 acres and are described as follows:

Mount Diablo Meridian

T. 28 S., R. 63 E.,
Sec. 22, that portion of the E½SE¼ lying east of the easterly right-of-way of S.R. 95 NVCC–020733;
Sec. 23, that portion lying east of the easterly right-of-way of S.R. 95 NVCC–020733, excepting Patent No. 27–72–0013, and patented mineral surveys;
Sec. 24, excepting patented mineral surveys;
Sec. 25, excepting patented mineral surveys;
Sec. 26, excepting patented mineral surveys;
Sec. 27, those portions of lots 1, 8, 9, 10, 14, and 15 lying east of the easterly right-of-way of S.R. 95 NVCC–020733.
T. 29 S., R. 63 E.,
Sec. 1;
Sec. 11, that portion lying east of airport leases NEV–065340 and N–81843;
Sec. 12, NE¼, N½NW¼, E½SW¼, SW¼SW¼, and SE¼;
Sec. 13;
Sec. 14, that portion lying east of the easterly right-of-way of S.R. 95 NVCC–020845, excepting airport lease NEV–065340;
Sec. 24, that portion lying east of the easterly right-of-way of S.R. 95 NVCC–020845;
Sec. 25, that portion lying east of the easterly right-of-way of S.R. 95 NVCC–020845.
T. 28 S., R. 64 E.,
Secs. 19 and 20;
Sec. 26, those portions of the N½NE¼SW¼, N½NW¼SW¼, and W½NW¼NW¼SE¼, lying north of the northerly right-of-way of Cottonwood Cove Road;
Secs. 27 and 28;
Sec. 29, excepting patented mineral surveys;
Sec. 30, excepting patented mineral surveys;
Sec. 31, excepting patented mineral surveys;
Sec. 32, excepting patented mineral surveys;
Secs. 33 and 34.
T. 29 S., R. 64 E.,
Sec. 4;
Sec. 5, excepting patented mineral surveys;
Secs. 6 to 8 inclusive, 17 to 20 inclusive, and 29 and 30.

The area described contains 18,789.71 acres, more or less, in Clark County, Nevada.

The BLM has determined that this temporary segregation is necessary to ensure the orderly administration of the public lands by maintaining the status quo while it processes SWE's and Western's ROW applications for the above described lands. The temporary segregation period will terminate and the lands will automatically reopen to appropriation under the public land laws, including the Mining Law, if one of the following events occurs: (1) The BLM issues a decision granting, granting with modifications, or denying SWE's and Western's ROW authorization request; (2) Publication in the **Federal Register** of a notice terminating this segregation; or (3) No further administrative action occurs at the end of this segregation. Any segregation made under this authority is effective only for a period of up to 2 years.

Authority: 40 CFR 1506.6, 40 CFR 1506.10.

Vanessa Hice,
Assistant Field Manager, Division of Lands.

[FR Doc. 2012–940 Filed 1–19–12; 8:45 am]

BILLING CODE 4310–HC–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLIDB00100 LF1000000.HT0000 LXSS024D0000 4500031313]

Notice of Public Meeting: Resource Advisory Council to the Boise District, Bureau of Land Management, U.S. Department of the Interior

AGENCY: Bureau of Land Management, U.S. Department of the Interior.

ACTION: Notice of public meeting.

SUMMARY: In accordance with the Federal Land Policy and Management Act (FLPMA) and the Federal Advisory Committee Act of 1972 (FACA), the U.S. Department of the Interior, Bureau of Land Management (BLM) Boise District Resource Advisory Council (RAC), will hold a meeting as indicated below.

DATES: The meeting will be held March 21, 2012, at the Boise District Office, located at 3948 S. Development Avenue, Boise, Idaho, beginning at 9 a.m. and adjourning at 4:30 p.m. Members of the public are invited to attend. A public comment period will be held.

FOR FURTHER INFORMATION CONTACT: MJ Byrne, Public Affairs Officer and RAC Coordinator, BLM Boise District, 3948 Development Ave., Boise, ID 83705, Telephone (208) 384–3393.

SUPPLEMENTARY INFORMATION: The 15-member Council advises the Secretary of the Interior, through the BLM, on a variety of planning and management issues associated with public land management in southwestern Idaho. Items on the agenda include reports by the RAC's Resource Management Plan Subgroup on its collaboration with the development of the Four Rivers Field Office Resource Management Plan. A progress report on the Paradigm Project will be provided by the District's Fuels Program, and the environmental impact statement for renewal of 25 grazing permits in western Owyhee County. An update will also be given on accomplishments during FY 2011 and plans for FY2012, related to implementation of the Omnibus Public Lands Management Act of 2009, Subpart F—Owyhee Public Land Management. Each field manager will discuss progress being made on priority actions in their offices. Agenda items and location may change due to changing circumstances. The public may present written or oral comments to members of the Council. At each full RAC meeting, time is provided in the agenda for hearing public comments. Depending on the number of persons wishing to comment and time available, the time for individual oral comments may be limited. Individuals who plan to attend and need special assistance should contact the BLM Coordinator as provided above. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1–(800) 877–8339 to contact the above individual during normal business hours. The FIRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

Dated: January 12, 2012.

Aden L. Seidlitz,
District Manager.

[FR Doc. 2012–1119 Filed 1–19–12; 8:45 am]

BILLING CODE 4310–GG–P

INTERNATIONAL TRADE COMMISSION

[DN 2871]

Certain Video Displays and Products Using and Containing Same; Receipt of Complaint; Solicitation of Comments Relating to the Public Interest

AGENCY: U.S. International Trade Commission.

ACTION: Notice.

SUMMARY: Notice is hereby given that the U.S. International Trade Commission has received a complaint entitled *In Re Certain Video Displays and Products Using and Containing Same,* DN 2871; the Commission is soliciting comments on any public interest issues raised by the complaint.

FOR FURTHER INFORMATION CONTACT: James R. Holbein, Secretary to the Commission, U.S. International Trade Commission, 500 E Street SW., Washington, DC 20436, telephone (202) 205–2000. The public version of the complaint can be accessed on the Commission's electronic docket (EDIS)

Laughlin Nevada Times

Proof of Publication

STATE OF NEVADA)
County of Clark) ss

I, **Linda Delano**, am the legal representative of the printer and publisher of the **LAUGHLIN NEVADA TIMES**, a weekly newspaper circulated in the English language on Wednesday in the Laughlin area, County of Clark, State of Nevada.

Notice Type / Description **SEARCHLIGHT WIND ENERGY PROJECT DRAFT ENVIRONMENTAL IMPACT STATEMENT PUBLIC MEETING ANNOUNCEMENT**

That the notice, of which the annexed is a printed copy, has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

February 1, 2012

L. Delano

Representative Signature

I certify (or declare) under penalty of perjury the foregoing is true and correct as subscribed and sworn to before me this

1 day of February ,20 12

Laura J. Sullivan

Notary Public

(My commission expires 10-2-2012)

LAURA J SULLIVAN
Notary Public - Arizona
Mohave County
My Comm. Expires Oct 2, 2012

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC MEETING ANNOUNCEMENT

The Bureau of Land Management (BLM) is holding public meetings to receive comments on the Searchlight Wind Energy Project Draft Environmental Impact Statement (EIS). Please plan to attend one of the following meetings:

Laughlin
Tuesday, February 21, 2012
6 pm – 8 pm
Clark County Regional Government Center
101 Civic Way
Laughlin, NV

Searchlight
Wednesday, February 22, 2012
6 pm – 8 pm
Searchlight Community Center
200 Michael Wendell Way
Searchlight, NV

Boulder City
Thursday, February 23, 2012
6 pm – 8 pm
Boulder City Library
701 Adams Blvd.
Boulder City, NV

For further information, please contact Gregory Helseth, BLM Project Manager, at (702) 515-5176 or send an email to: blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Publihs: February 1, 2012
12134192

BOULDER CITY REVIEW

PROOF OF PUBLICATION

I, Maggie Wimmer, hereby swear and depose

that the attached advertisement

was published for

NEWFIELDS

in **Boulder City Review,** a Nevada Newspaper,

on the following date(s):

February 2, 2012

Verified this 3rd day of February, 2012 by

/s/ Maggie Wimmer

Maggie Wimmer

Boulder City Review Advertising

/s/ Ana Quiquivix-Martinez

Ana Quiquivix-Martinez

Notary Public

SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

PUBLIC MEETING ANNOUNCEMENT

The Bureau of Land Management (BLM) is holding public meetings to receive comments on the Searchlight Wind Energy Project Draft Environmental Impact Statement (EIS). Please plan to attend one of the following meetings:

Laughlin
Tuesday, February 21, 2012
6 pm – 8 pm
Clark County Regional Government Center,
101 Civic Way Laughlin, NV

Searchlight
Wednesday, February 22, 2012
6 pm – 8 pm
Searchlight Community Center
200 Michael Wendell Way
Searchlight, NV

Boulder City
Thursday, February 23, 2012
6 pm – 8 pm
Boulder City Library
701 Adams Blvd.
Boulder City, NV

For further information, please contact Gregory Helseth, BLM Project Manager, at (702) 515-5176 or send an email to: blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

PUB: February 2, 2012 Boulder City Review

ANA QUIQUIVIX-MARTINEZ
Notary Public State of Nevada
No. 05-94128-1
My appt. exp. Dec. 13, 2012

AFFIDAVIT OF PUBLICATION

STATE OF NEVADA)
COUNTY OF CLARK) SS:

Stacey M. Lewis, being 1st duly sworn, deposes and says: That she is the Legal Clerk for the Las Vegas Review-Journal and the Las Vegas Sun, daily newspapers regularly issued, published and circulated in the City of Las Vegas, County of Clark, State of Nevada, and that the advertisement, a true copy attached for,

NEWFIELDS INTERNATIONAL LLC 9522072NEW 7712862

was continuously published in said Las Vegas Review-Journal and / or Las Vegas Sun in 1 edition(s) of said newspaper issued from 02/06/2012 to 02/06/2012, on the following days:

02/06/2012

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC MEETING ANNOUNCEMENT

The Bureau of Land Management (BLM) is holding public meetings to receive comments on the Searchlight Wind Energy Project Draft Environmental Impact Statement (EIS). Please plan to attend one of the following meetings:

Laughlin
Tuesday, February 21, 2012
6 pm – 8 pm
Clark County Regional Government Center,
101 Civic Way Laughlin, NV

Searchlight
Wednesday, February 22, 2012
6 pm – 8 pm
Searchlight Community Center
200 Michael Wendell Way
Searchlight, NV

Boulder City
Thursday, February 23, 2012
6 pm – 8 pm
Boulder City Library
701 Adams Blvd.
Boulder City, NV

For further information, please contact Gregory Helseth, BLM Project Manager, at (702) 515-5173 or send an email to: blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

PUB: February 6, 2012 LV Review-Journal

Signed: Stacey M. Lewis

SUBSCRIBED AND SWORN BEFORE ME THIS, THE 6th day of February, 2012.

Mary A. Lee
Notary Public

MARY A. LEE
Notary Public State of Nevada
No. 09-8941-1
My appt. exp. Nov. 13, 2012

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC MEETING ANNOUNCEMENT

The Bureau of Land Management (BLM) is holding public meetings to receive comments on the Searchlight Wind Energy Project Draft Environmental Impact Statement (EIS). Please plan to attend one of the following meetings:

LAUGHLIN

Tuesday, February 21, 2012
6 pm – 8 pm
Clark County Regional Government Center
101 Civic Way
Laughlin, NV 89029

SEARCHLIGHT

Wednesday, February 22, 2012
6 pm – 8 pm
Searchlight Community Center
200 Michael Wendell Way
Searchlight, NV 89046

BOULDER CITY

Thursday, February 23, 2012
6 pm – 8 pm
Boulder City Library
701 Adams Blvd.
Boulder City, NV 89005

For further information, please contact Gregory Helseth, BLM Project Manager, at (702) 515-5176 or send an email to: blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT
PUBLIC MEETING ANNOUNCEMENT

The Bureau of Land Management (BLM) is holding public meetings to receive comments on the Searchlight Wind Energy Project Draft Environmental Impact Statement (EIS). Please plan to attend one of the following meetings:

Laughlin	Searchlight	Boulder City
Tuesday,	Wednesday,	Thursday,
February 21, 2012	February 22, 2012	February 23, 2012
6 pm – 8 pm	6 pm – 8 pm	6 pm – 8 pm
Clark County Regional	Searchlight Community	Boulder City Library
Government Center	Center	701 Adams Blvd.
101 Civic Way	200 Michael Wendell Way	Boulder City, NV 89005
Laughlin, NV 89029	Searchlight, NV 89046	

For further information, please contact Gregory Helseth, BLM Project Manager, at (702) 515-5176 or send an email to: blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Appendix A-3: Public Hearing Materials

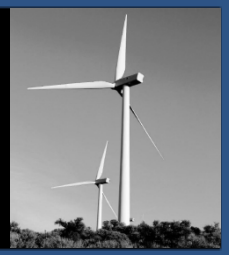
Proposed Searchlight Wind Energy Project

Draft Environmental Impact Statement Public Meetings

February 21 – 23, 2012

BLM

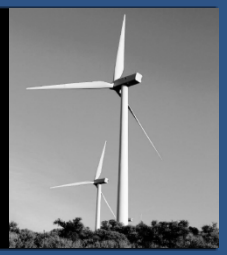
What is the proposed project?



- An approximately 200 megawatt wind energy facility and associated infrastructure proposed by Searchlight Wind Energy, LLC
- Project will produce electricity to power approximately 50,000 homes.
- An interconnection switching station proposed by Western Area Power Administration

BLM

Where is the project located?



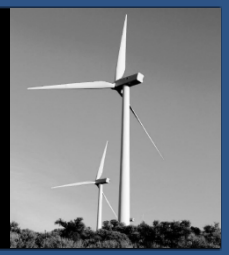
The proposed project area is adjacent to Searchlight, approximately 60 miles southeast of Las Vegas in Clark County, Nevada

Right-of-way application area (shown in red) is the same as the area of mineral segregation at approximately 18,000 acres

If approved, the permanent project footprint would be approximately 163 acres.

BLM

What is mineral segregation?



- Segregation allows for the orderly development of valuable renewable resources and to avoid conflicts between renewable energy applications and mining
- In connection with processing these right-of-way applications, the BLM has segregated the public lands within the application area from mineral entry for a period of up to two years
- This temporary segregation does not affect valid existing rights of current mining claims

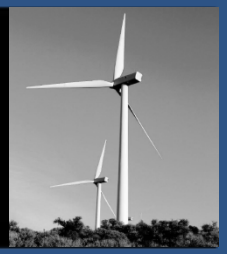
BLM

What laws authorize the Bureau of Land Management (BLM) to grant rights-of-way?

BLM

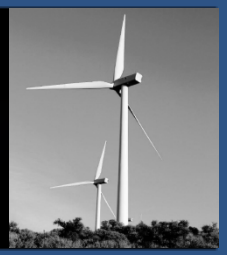
- Federal Land Policy and Management Act of 1976 and Title 43 Code of Federal Regulations Part 2800
- Section 211 of Energy Policy Act of 2005
- Secretarial Order 3283 “Enhancing Renewable Energy on Public Lands”

Why is the BLM considering this project?



- The BLM is responding to applications submitted by Searchlight Wind Energy, LLC and Western Area Power Administration
- The BLM is directed by the Federal Land Policy and Management Act to manage federal land for multiple uses
- The Energy Policy Act states the Secretary of the Interior should seek to have approved up to 10,000 megawatts of non-hydropower renewable energy project on public lands by 2015

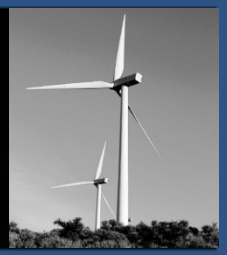
What is the decision to be made?



- The BLM's will decide whether or not to approve the right-of-way applications
- If approved, the BLM will also include mandatory stipulations in the right-of-way grant to appropriately protect public resources

BLM

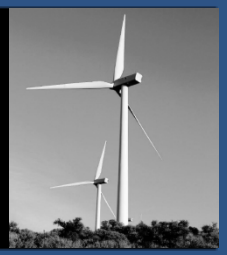
What are the project components?



- Up to 96 wind turbine generators, including concrete foundations and transformers
- Underground electrical collection and communication systems
- Two electrical substations and 6.1-mile overhead transmission line connecting the substations

BLM

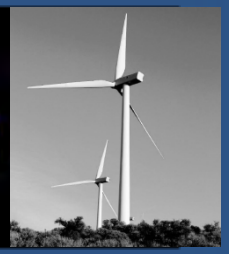
Project components continued…



- A switching station and 2.6 miles of overhead transmission line (230 kV) proposed by Western Area Power Administration
- Up to four MET (meteorological) towers
  - Three were installed for wind testing under a separate right-of-way application and NEPA process
  - MET towers would remain and be a component of the project for data gathering purposes
- Operations and maintenance building
- Access roads

BLM

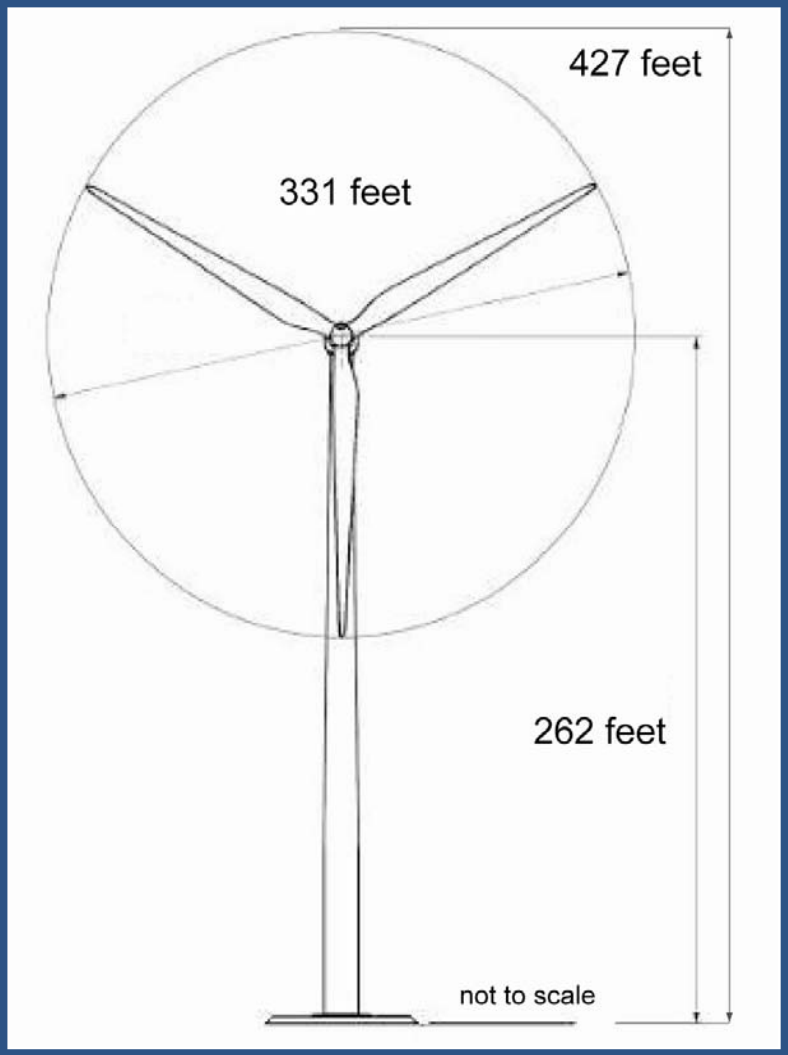
Substations versus Switching Station



- The two Searchlight Wind Energy, LLC. substations would collect the energy and transport it to the switching station
- The Western Area Power Administration switching station would transfer the energy to the grid

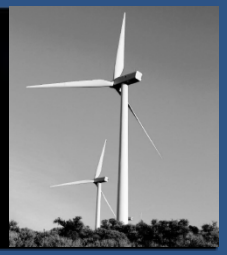
BLM

Wind turbine generator dimensions and installation



BLM

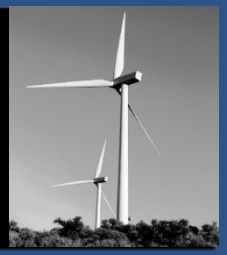
What are the temporary components and activities during construction?



- Two laydown areas for staging of construction equipment
- Concrete batch plant for making concrete for wind turbine generator foundations
- Portable rock crusher for making aggregate for fill and road base

BLM

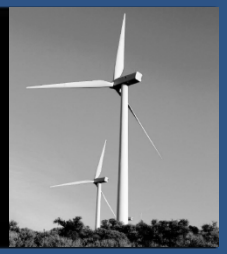
What alternatives are being considered?



BLM

- 96 Wind Turbine Generator Layout Alternative (applicant proposed action)
- 87 Wind Turbine Generator Layout Alternative (BLM preferred alternative)
- No Action Alternative

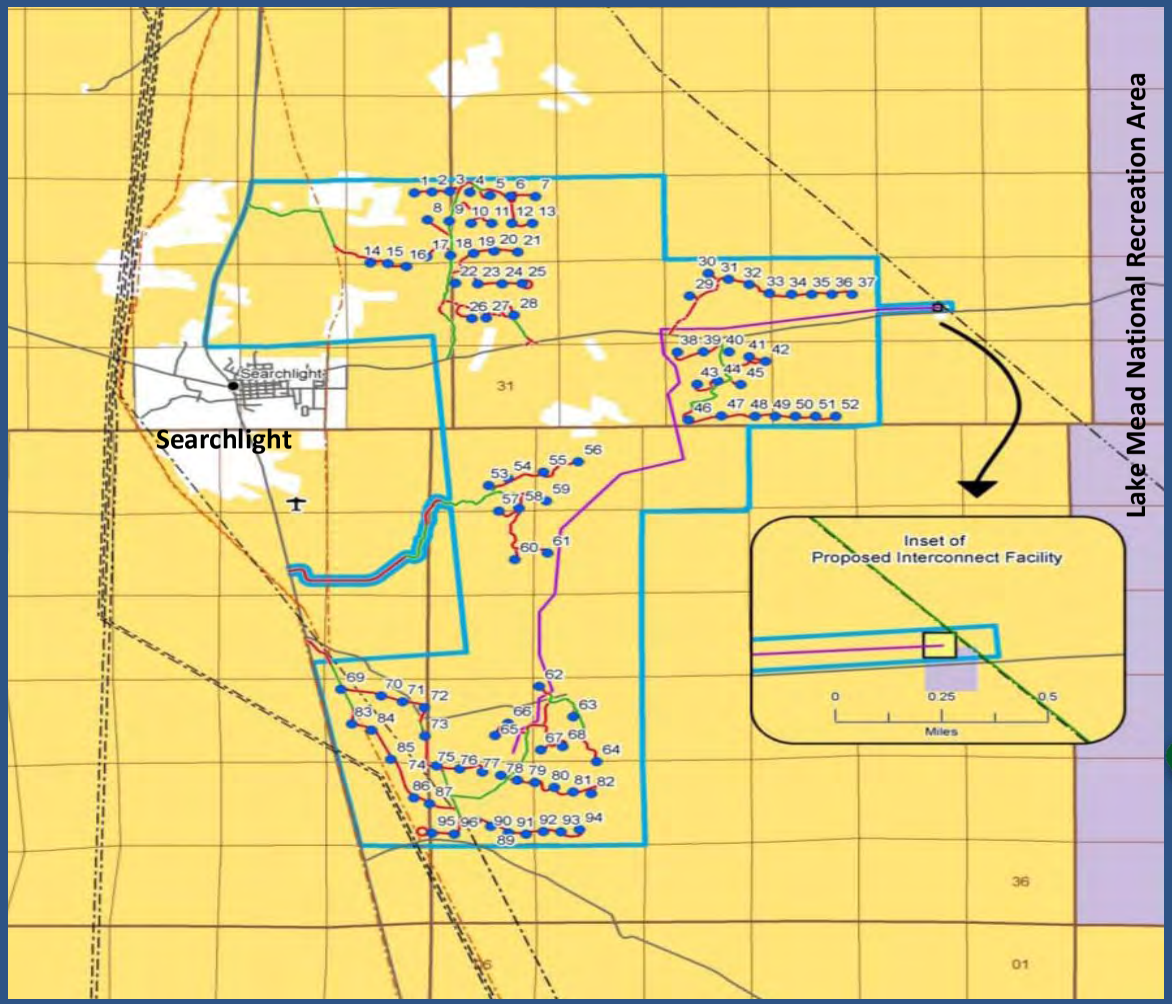
What alternatives are being considered? (continued….)



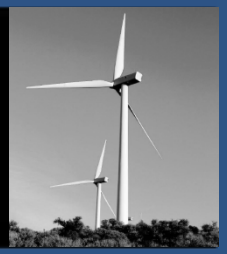
BLM

Proposed Action:

96 Wind Turbine Generator Layout Alternative



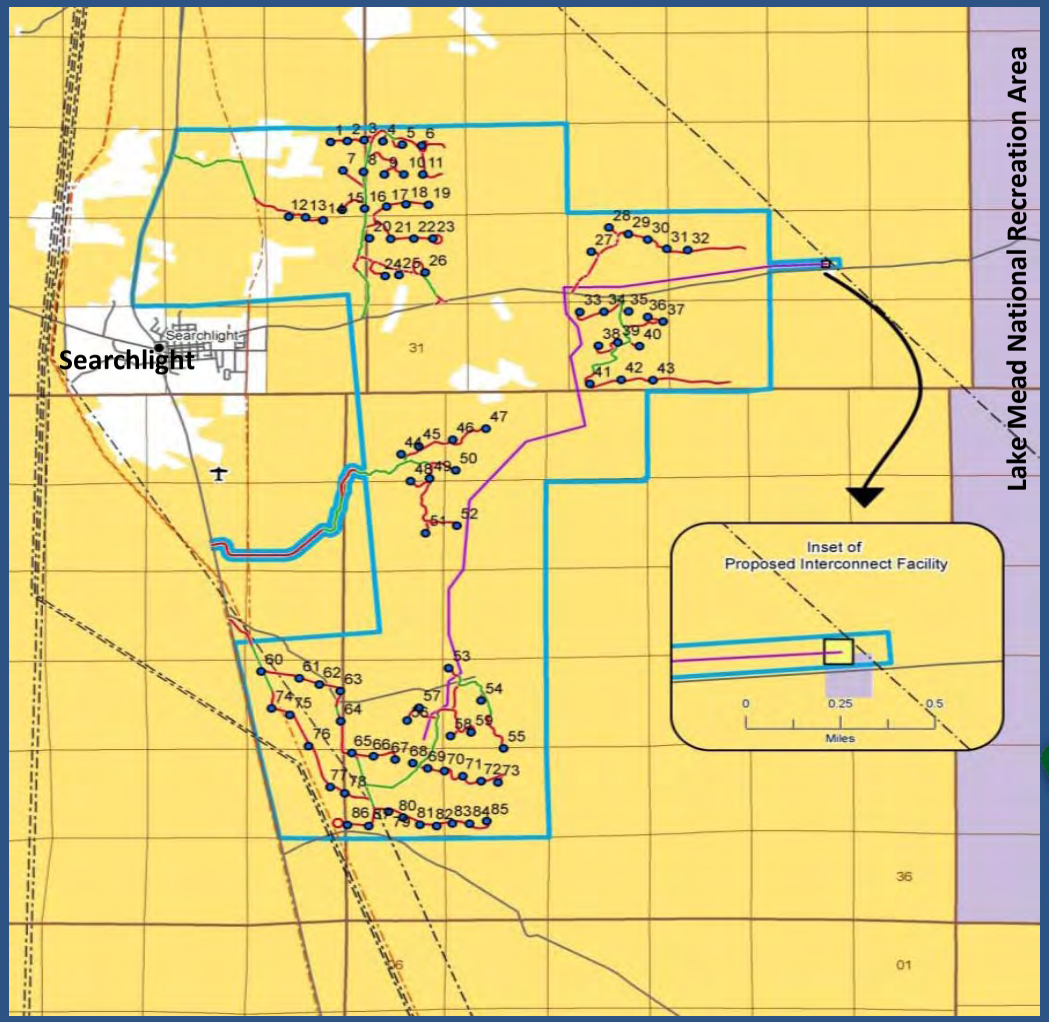
What alternatives are being considered? (continued….)



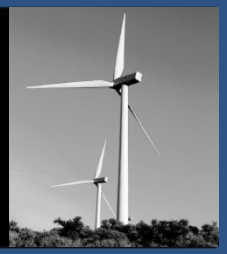
BLM

BLM Preferred Alternative:

87 Wind Turbine Generator Layout Alternative



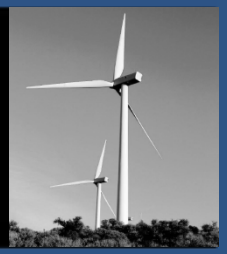
What alternatives are being considered? (continued….)



BLM

No Action Alternative – the BLM would not approve the right-of-way applications

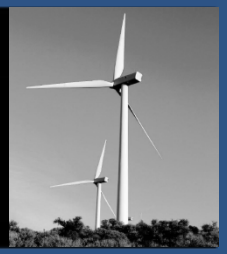
Why is the BLM considering this location?



- Right-of-way applications received were for the Searchlight area
- The area contains good-to-excellent wind resources
- Area is close to an existing electrical transmission line
- Area topography is suitable for wind turbine generators

BLM

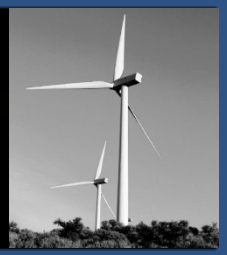
Concerns raised during public scoping



BLM

Issue	EIS page number
Water supply issues	4-14
Impacts to biological resources	4-25
Impacts to archaeological resources	4-38
Air quality impacts (dust/emissions/odors)	4-41
Land Use/Transportation	4-51 and 4-55
Visual impacts	4-61
Noise impacts	4-79
Effects on tourism	4-92
Hazardous materials impacts	4-114
Cumulative impacts	4-127

Project Schedule – NEPA Process



BLM

COMMENT PERIOD

PROJECTED DATES

12/16/08-
2/17/09

1/20/12 — 4/18/12

6/30/12

7/30/12

Scoping Period

DEIS Release Date

Public Meetings

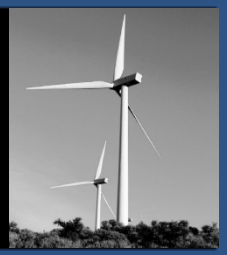
90-Day Public Comment Period Ends

FEIS Release Date

Record of Decision signed by Secretary of the Interior

WE ARE HERE

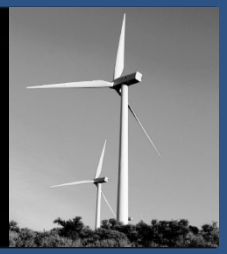
Thank you!



BLM

The public comment period will begin shortly.

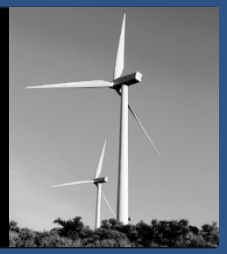
How the public comment period will work



- This portion of the meeting is to receive your comments on the proposed project
- If you wish to make a public comment, please submit a speaker request card
- Current elected officials will be invited to comment first, followed by the public
- Each person will have up to three minutes to make his/her comment

BLM

How the public comment period will work continued…



- Please be respectful and courteous
- The BLM will not be answering questions during this portion of the meeting
- Staff will be available after this portion of the meeting to answer questions
- Written comments must be postmarked by April 18, 2012 to be considered in the Final EIS

BLM

Proposed Searchlight Wind Energy Project

Draft Environmental Impact Statement Public Meeting

February 21 -23, 2012

BLM

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Please Sign In

Proposed Searchlight Wind Energy Project

Draft Environmental Impact Statement Public Meeting

BLM

Proposed Action

The Bureau of Land Management (BLM) is responding to right-of-way applications: one submitted by Searchlight Wind Energy, LLC to construct, operate, maintain, and decommission a 200 megawatt wind energy facility and associated infrastructure and one submitted by Western Area Power Administration to construct, operate, maintain and decommission an interconnection switching station that would conduct the power generated from the wind energy facility to Western Area Power Administration's grid system.

Project Location

The proposed wind energy facility and interconnection switching station would be:

- Approximately 1.5 miles west of the western border of Lake Mead National Recreation Area
- Approximately 60 miles southeast of Las Vegas
- Approximately 40 miles north of Laughlin
- The project area is to the northeast, east, and southeast of Searchlight, Nevada

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

BLM Decisions to be Made

The BLM will decide whether to:

- Deny the proposed rights-of-way
- Grant the rights-of-ways, or
- Grant the rights-of-ways with modifications.

Modifications may include modifying the proposed use or changing the route or location of the proposed facilities (43 CFR 2805.10(a)(1)). The BLM will use this Environmental Impact Statement to analyze terms, conditions, and mitigation measures to determine which, if any, modifications to the proposed project would be effective and would protect resource values.

Western Area Power Administration Decisions to be Made

Western Area Power Administration, a Federal agency, is participating in the EIS process as a cooperating agency. Western Area Power Administration will use this EIS to support its decision on whether or not to construct the interconnection switching station and approve or deny Searchlight Wind Energy, LLC's interconnection request.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Proposed Searchlight Wind Energy Project

Draft Environmental Impact Statement Public Meeting

BLM

BLM's Purpose and Need

In accordance with the Federal Land Policy and Management Act (Section 103(c), public lands are to be managed for multiple use that takes into account the long-term needs of future generations for renewable and non-renewable resources. The Secretary of the Interior is authorized to grant ROW on public lands for systems of generation, transmission, and distribution of electric energy (Section 501(a)(4)). Taking into account the BLM's multiple use mandate, the purpose and need for the proposed actions is to respond to two FLPMA right-of-way applications: one submitted by Searchlight Wind to construct, operate, maintain, and decommission a wind energy facility and associated infrastructure and one submitted by Western to construct, operate, maintain, and decommission an interconnection switching station that would conduct the power generated from the wind facility to Western Area Power Administration's electrical grid system.

Consideration of the ROW applications would be in compliance with FLPMA, BLM right-of-way regulations, and other applicable Federal laws and policies. These actions would, if approved, assist the BLM in addressing the management objectives in the Energy Policy Act of 2005 (Title II, Section 211), which established a goal for the Secretary of the Interior to approve 10,000 MWs of electricity from non-hydropower renewable energy projects located on public lands by 2015. This proposed action, if approved, would also further the purpose of Secretarial Order 3285A1 (March 11, 2009) that establishes the development of environmentally responsible renewable energy as a priority for the Department of the Interior.

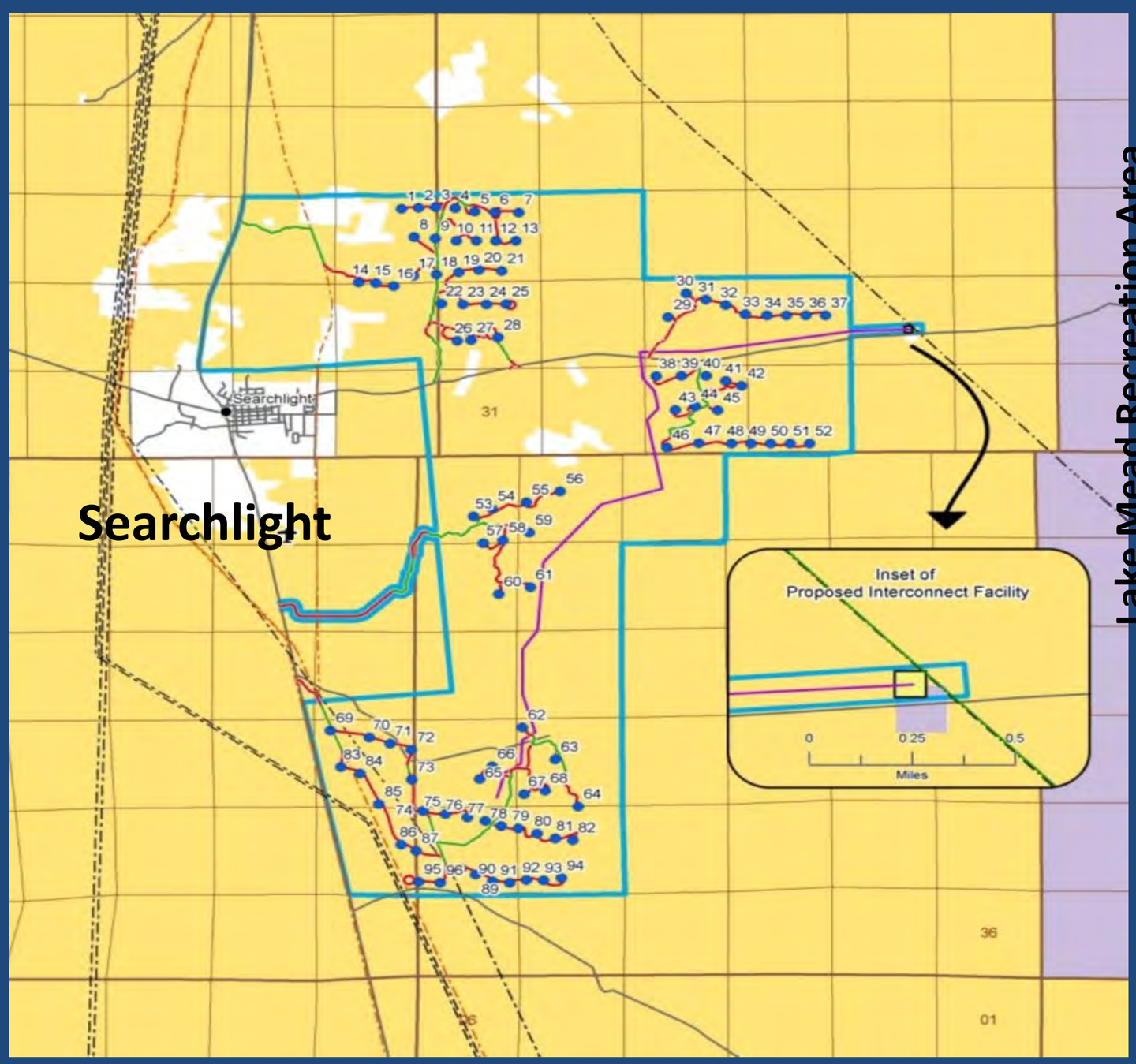
Proposed Searchlight Wind Energy Project

Draft Environmental Impact Statement Public Meeting

BLM

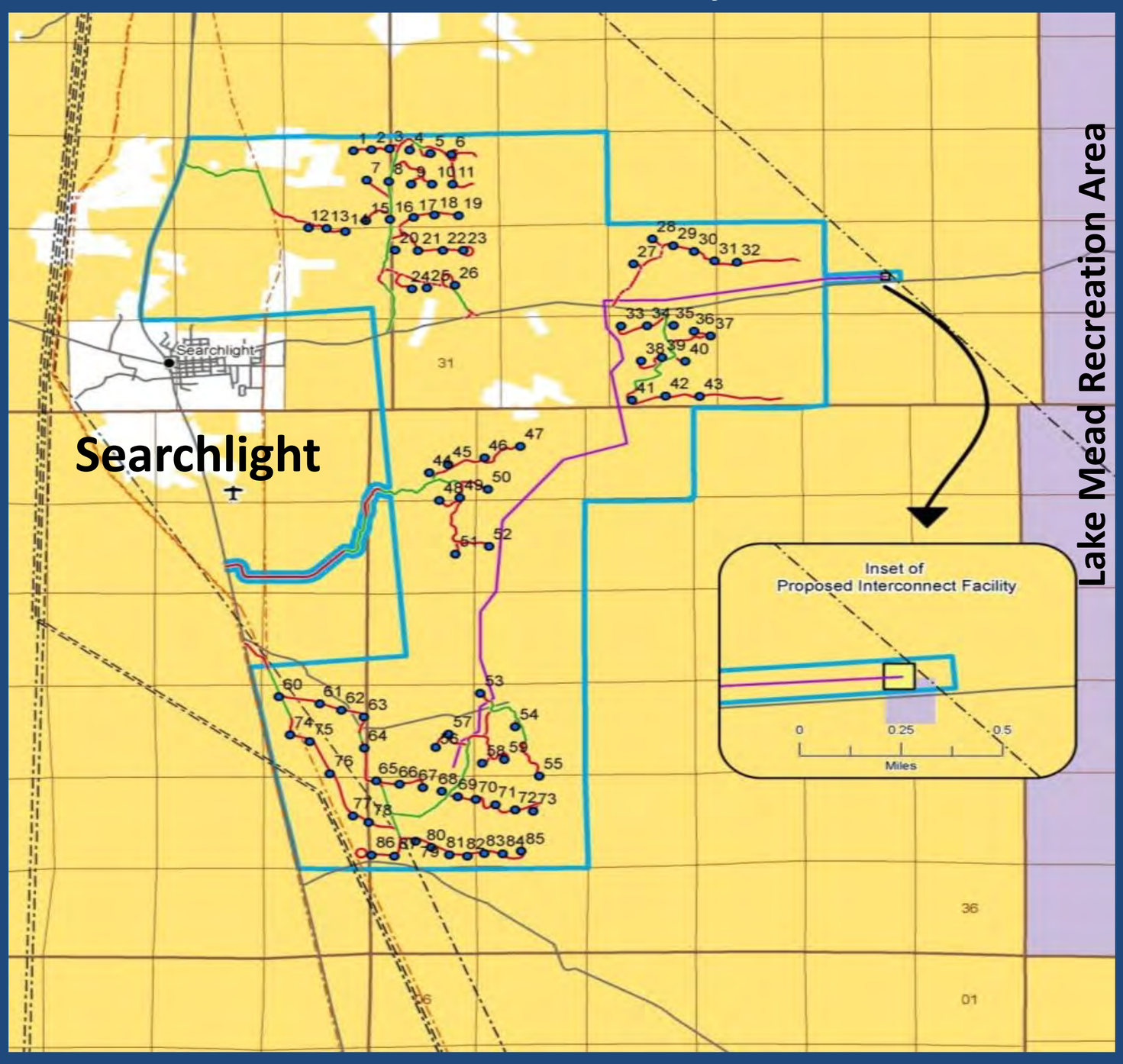
Proposed Action:

96 Wind Turbine Generator Layout



BLM-Preferred Alternative:

87 Wind Turbine Generator Layout



Proposed Searchlight Wind Energy Project

Draft Environmental Impact Statement Public Meeting

BLM

Meeting Agenda

30 minutes – Open House

- Exhibit review with specialists available to answer questions

30 minutes – Presentation

- Welcome and introductions
- Purpose of the Meeting
- Project Overview

60 minutes – Public Comment Period

Comment Disclaimer: Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Proposed Searchlight Wind Energy Project

BLM

Draft Environmental Impact Statement Public Meeting

How the public comment period of this meeting will work

- Your comments and questions are critical to the environmental review process. They will be addressed in the Final EIS.
- If you wish to make a public comment during the meeting, please fill out and submit a speaker registration card.
- Elected officials will be asked to provide their comments first, and then comments from the general public will follow.
- A meeting facilitator will call three speakers at a time. A speaker waiting area will be set up next to the podium. After each person has finished his/her comments, another person will be called to the speaker waiting area, so that there are always three people lined up to make their comments. We ask that you please move to the front of the room when your name is called.
- Each person is asked to limit his/her comments to three minutes. A timer is provided on the presentation screen. Additionally, a meeting facilitator will flash a green card for the first two minutes of your comment followed by a yellow card for the third minute of your comment. A red card will flash when three minutes have passed.
- Please note that at the end of the three minute comment time, the microphone may be turned off. If you run out of time to make your comments, you are encouraged to sign up again. If you sign up to make a second comment, you will be called after all other speakers if time allows. You may also submit a written comment.
- In order to give the opportunity to make public comments to as many people as possible, you cannot give your unused comment time to others.
- A second court reporter is available throughout the meeting to record your comments if you do not wish to speak publicly or if you are unable to wait until your name is called.
- Please note that we will not answer questions during the public comment period of the meeting. Resource specialists will be available during the open house period and after the public comment portion of the meeting to answer questions.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Comment Disclaimer: Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Proposed Searchlight Wind Energy Project

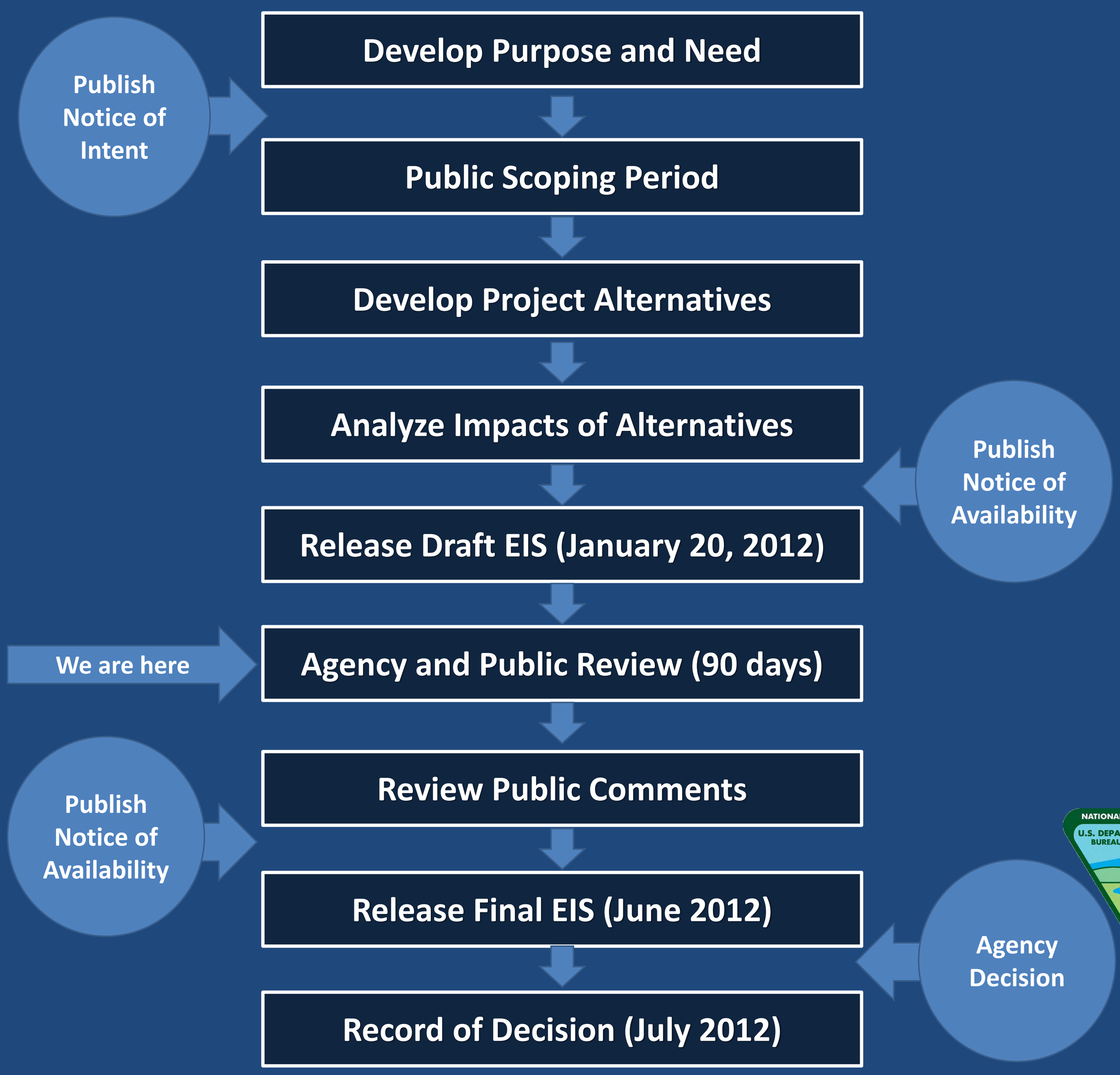
Draft Environmental Impact Statement Public Meeting

BLM

The National Environmental Policy Act (NEPA)

- NEPA is a law that requires federal agencies to consider the environmental consequences of a project in their decision-making process.
- The primary purpose of a NEPA document is to serve as a decision-making tool to ensure that the policies and goals defined in NEPA are incorporated into the ongoing programs and actions of federal government.
- The intent of NEPA is to protect, restore, or enhance the environment through a well-informed decision-making process.

The National Environmental Policy Act Process



Proposed Searchlight Wind Energy Project

Draft Environmental Impact Statement Public Meeting

BLM

Biological Resources

- Cactus and Yucca
- Desert Tortoise
- Bats and Migratory Birds

How impacts will be mitigated

- A Cactus and Yucca Salvage Plan will be prepared and implemented as part of the proposed project.
- The U.S. Fish and Wildlife Service (USFWS) will issue a Biological Opinion for the project. All terms and conditions would be implemented as part of the proposed project.
- An Avian and Bat Protection Plan will be developed. It will provide for pre-construction surveys, post-construction monitoring, and adaptive management measures.

Visual Resources

- Wind turbine generators would introduce new moving vertical structures into the existing viewshed.
- New roads would be developed.

How impacts on visual resources will be mitigated

- Site disturbance will be minimized during construction.
- Structures will be painted a BLM-approved standard environmental color to help structures blend into the environment. Painting turbines will be subject to Federal Aviation Administration approval.
- Lighting on wind turbine generators would be minimized to the extent permitted by the Federal Aviation Administration.
- New roads will be contoured into the existing topography. Asphalt and gravel colors will be selected to minimize contrast with the site's soil colors.

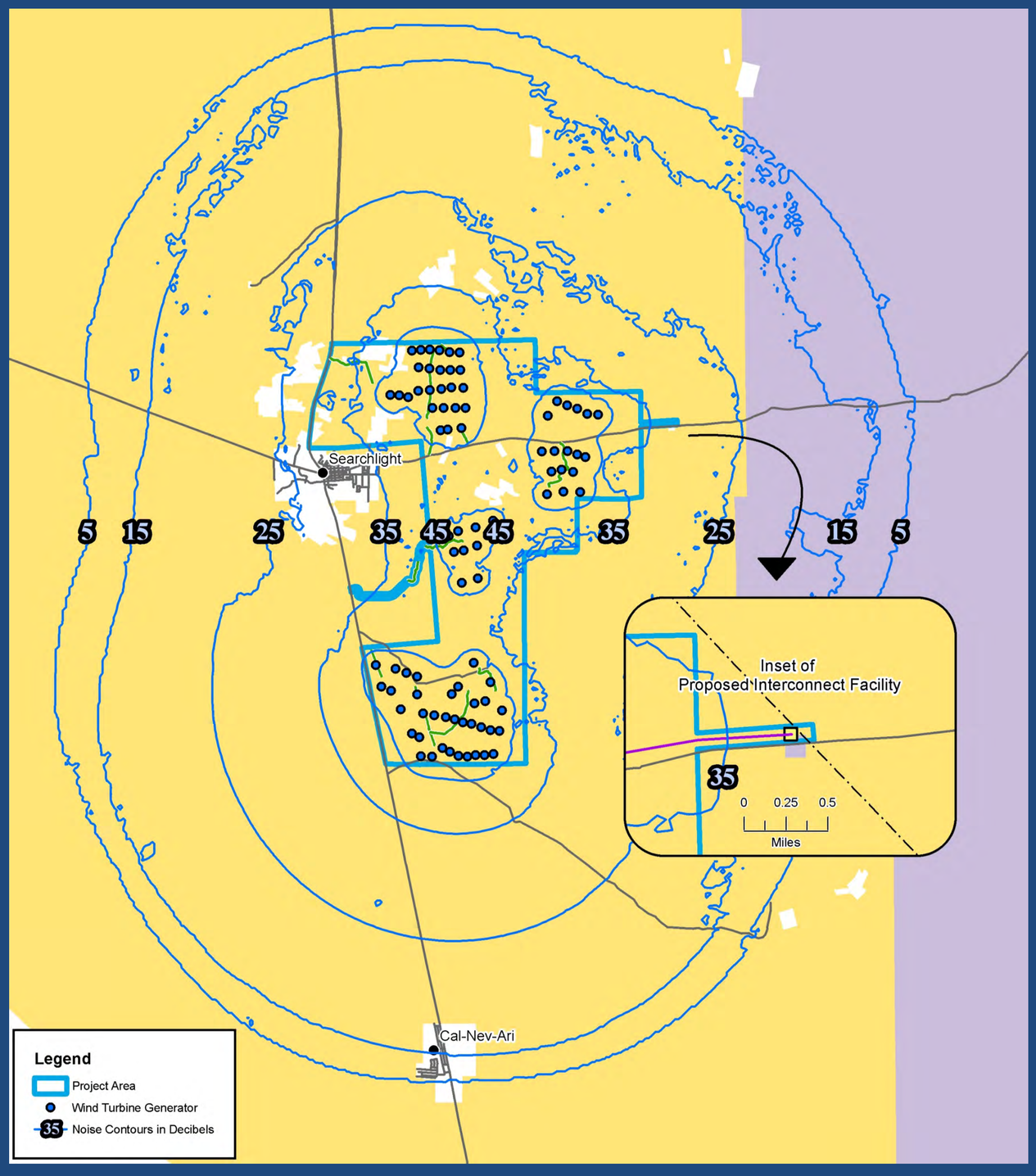
Proposed Searchlight Wind Energy Project

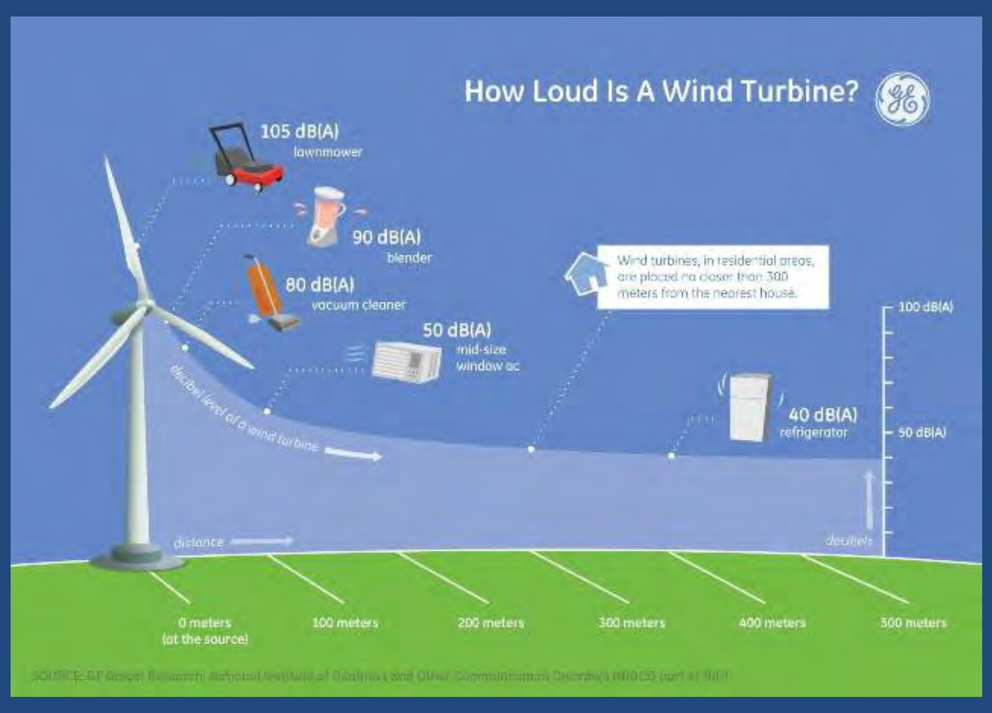
Draft Environmental Impact Statement Public Meeting

BLM

Impacts from Noise

- Construction Noise
- Wind Turbine Noise
- Transmission Line (Corona) Noise





How impacts from noise will be mitigated

- Construction near residences will be limited to daytime hours.
- Acoustic barriers will be installed around stationary construction noise sources to maintain a noise level not to exceed 43 dBA at nearest residences.
- Transformer equipment will use sound-dampening pads and flexible conduit couplings to reduce noise.

Proposed Searchlight Wind Energy Project

Draft Environmental Impact Statement Public Meeting

BLM

Transportation

- Construction traffic
- Damaged streets

How impacts will be mitigated

- A Traffic Management Plan will be prepared that identifies the best management practices to ensure an adequate traffic flow.
- After construction, damaged public roads will be repaired to their preconstruction condition.

Socioeconomic Benefits

- Up to 300 jobs would be created during peak construction activities.
- During construction approximately $22 million would be spent locally (7.5% of project construction expenditures).
- Approximately $500,000 would be spent in Clark and Mojave counties annually for operation and maintenance supplies.
- Up to 18 permanent full time jobs would be created.
- Tax revenue of $10 - $11 million would be paid to Clark County over the life of the project.
- Sales tax of approximately $6 million dollars would be paid to the State of Nevada.

NATIONAL SYSTEM OF PUBLIC LANDS
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY 21, 2012
LAUGHLIN, NEVADA

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
DUNCAN FISHER	PO BOX 1034	PARKER	AZ	85344	(928) 216-0202	
Judy Bundorf	1800 Sterling PKY	Henderson	NV	89012	702-682-9963	
Wayne Bundorf	" "	" "	" "	" "	" "	
Thomas Casey	PO Box 1303	Searchlight	NV	89046	tomsbigfish@yahoo.com 702 297 1930	
FI Morgan Smith	2935 K Rom S Circle MV, AZ	Mohave Valley	AZ.	86440	928-346-1081	
G.R. I.T.	997 Smith Rd	Needles CA.	CA.	92363	760-326-2678	
Jackie Brady	101 Civic Way Laughlin	Laughlin	NV	89029	702-298-0828	
Deborah Murray	101 Civic Way Laughlin	Laughlin	NV	89029	702 298-0828	

BLM

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY 22, 2012
SEARCHLIGHT, NEVADA

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

BLM

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
Jerry Cunow	506 E Cottonwood Cove	Searchlight	NV	89046	JCUNOW@YAHOO.COM	
Cliovia Hardy	P.O. Box 1213	Searchlight	NV	89046		Yes
Keith McCart	P.O. Box 1213	Searchlight	NV	89046		Yes
Joan Marie Meier-Wink	PO Box 104	Searchlight	NV	89046		
LAURA CUNNINGHAM	PO BOX 70	BEATTY	NV	89003		YES
Russell Coom	Box 907	Searchlight	NV	89046		NO
Deborah Murray	101 Civic Way	Laughlin	NV	89028	702 298-0828	No
Gary Komers	500 S/R 164	Searchlight	NV	89046		
Janet Bishop	P.O. BOX 292	Searchlight	NV	89046		
Mike Beasley	PO Box 292	"	"	"		
June Dorfin	PO BOX 582	Cal/Nev Ari	"	89059		YES

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY 22, 2012
SEARCHLIGHT, NEVADA

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

BLM

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
ELLEN ROSS	214 E. SHELBOURNE	LAS VEGAS	NV	89123	(702) 239-0625	
Robbie Claborn	157 E. Hobson	Searchlight	NV	89046	702 297-9257	
GILBERT GATES	300 WATERSPUT	SEARCHLIGHT	NV	89046	702. 297-1157	
David Mesenbrink	324 S. Montana	Searchlight	NV	89046	702 569 7323	
Sally Coon	PO Box 902	"	"	"	702-373-4968	
Donna Andress	HC62 Box 14	Nelson	NV	89046	702-291-0014	
C.L. Andress	✓	✓	NV	✓	✓	
Jon Palmer	PO BOX 81	Searchlight	NV	89046	909 957-2237	
Verlie Dozier	Box 187	Searchlight		89046		

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY 22, 2012
SEARCHLIGHT, NEVADA

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

BLM

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
Leslie Coon	475 ORLANDO ST	SEARCHLIGHT	NV	89046	LeslieCoon74@yahoo.com	
TOM HILL	590 E ENCINAS ST	SEARCHLIGHT	NV	89046		
Diane Kendall	185 E. Surprise	Searchlight	NV	89046	diakendall@gmail.com	
Richard Hill	Box 72	Searchlight	Nv	89046	rhill1483@gmail.com	
Jackie Brady	101 Civic Way Laughlin	Laughlin	NV	89029	jab@clarkcountynv.gov	
Cheryl Cross	POB 702	Searchlight	NV	89046	C.Cross@hotmail.com	
Landy Walters	250 Addition St P.O Box 175	Searchlight	NV	89046	swalters705@gmail.com	

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY 22, 2012
SEARCHLIGHT, NEVADA

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

BLM

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
Paula Johansen	566 Haunts Walk	LV	NV	89178	Johansen.paula@nhcai.com	No
Jessie Rinella	654 Otono Dr	B City	NV	89005	jessie_rinella@nps.gov	yes
James Eaton	↓	↓	↓	↓	jeaton979@gmail.com	yes

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY 22, 2012
SEARCHLIGHT, NEVADA

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

BLM

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
Sylvia Beyer	PO Box 1263	Searchlight	NV	89046	—	yes
Wayne Bryson	1800 [illegible] St.	Henderson	NV	89012		YES
Thomas Casey	PO Box 1303	Searchlight	NV	89046	tomsbigfish@yahoo.com 702 297 1930	No
Eleanor Shook	480 Quinonde	Searchlight	NV	89046	ELLIES83@AOL.com	Yes –
K. Dobbie	PO Box 582	CAL-NEV-AR	NV	89039	bkdobbie@earthlink.net	YES

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY 22, 2012
SEARCHLIGHT, NEVADA

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

BLM

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
Dana Taraglione						
Kimberly McCelery	PO Box 1471 ~~Searchlight NV 89046~~	Searchlight	NV	89046	kmccolery@aol.com	NO
[illegible]	1325 Dillscave Rd	Sylva	NC	28779	—	Yes
John H Weaver	4115 E Addition PO Box 917	Searchlight	NV	89046		No
Thomas Mitchell	Las Vegas		NV	89149	thomasmnv@yahoo.com	No
Jo "	" "		NV	"	"	
Gina & Bejo	Searchlight 3 Renergan Rd		NV		—	Yes
Judy Bundorf	1800 Sterling Pt Ct	Henderson	V	89012	jbundorf@cox.net	
Kevin Emmerich	Box 70 Beatty NV 89003	Beatty	NV	89003		
Paul Stephens	Oregon Code PO Box 1214	Searchlight	NV	89046	—	YES

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY ~~22~~ 23, 2012
~~SEARCHLIGHT~~, NEVADA
Boulder City,

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

BLM

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
S Feuerlecke	9504 Antler Valley	Las Vegas	NV	89134		Yes
M. C						
Craig Pyper Colorado River Comm	555 E Washington #1100	LV	NV	89101	cpyper@crc.nv.gov	No
Thomas Casey	PO Box 1303	Searchlight	NV	89046	tomsbigfishe yahoo.com 702 297 1930	No
Sara Moffat	333 LV Blvd S	LV	NV	89101	sara_moffat@reid.senate.gov	N
Don Bryce	1514 Irene Dr	Rox	NV	89005	dbryce@usbr.gov	N
Wayne Bundorf	1800 Sarahne Point	HN	NV	89012		Yes
James Ent	654 Otero Dr	BC.	NV	89005		Yes
Jessie Rinella	" "	"	"	"		Yes
Agel N Pinkerto	1306 Manita	BC	NV	89005		
Jim Holland	601 Nevada Way	BC	NV	89005		—

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

FEBRUARY ~~22~~ 23, 2012
~~SEARCHLIGHT~~, NEVADA
Boulder City

Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

SIGN-IN SHEET

Name/Organization	Address	City	State	Zip Code	Email or Phone No.	Withhold Personal Info (Yes or No)
ROB MRDWKA	426 LILY	NLV	NV	89032	RMRDWKA@ BIOLOGICALDIVERSITY.ORG	N
CENTER FOR BIOLOGICAL DIVERSITY	GLEN CT					
Donald Moffat	2301 Redwood ST #3003	LV	NV	89146		
Terry Rambur	329 Mount Hope St Henderson NV	H	N	89014	trambur@NCLAWLVCAS.com	N
Judy Bunderf	1800 Sterling Pt Ct Henderson	NV				
ELLEN ROSS	214 E SHELBURNE	~~NV~~	N	89123	zenellen@att.net	N
JOHN HERMI HART	8180 PLARID ST	LV.	NV	89123		N
TIM CARLSON	3404 CALLE DEL TORRE	L.V	NV	89102	TIM@PBRCORP.COM	—
HARISH AGARWAL	9417 Rock Garden Ct.	LV	NV	89178	Agarwal@clarkcountynv.gov	
Bryan Moore	601 Nevada Hwy ~~Boulder City~~	Boulder City	NV	89005	bmoore@nps.gov	NO

BLM

DRAFT ENVIRONMENTAL IMPACT STATEMENT

How to make the most of this meeting

- If you wish to make a public comment during the meeting, please fill out and submit a speaker registration card. Elected officials will be asked to provide their comments first. Public commenters will be called in the order that their request cards were submitted, so we encourage you to please sign up early.
- At least one court reporter will be available during the entire meeting to record your comments privately if you do not wish to speak publicly.
- Please note that we will not answer questions during the public comment period of the meeting. Resource specialists will be available during the open house period and, if time allows, after the public comment period if you would like to ask questions.
- Please be polite and courteous during the project presentation and public comment periods of the meeting so everyone can hear what is being said.
- Copies of the Draft Environmental Impact Statement are available at the sign in desk for you to review or take home with you.

How to provide written comments

Written comments may be submitted in the following ways:

- By placing your written comment in the comment boxes provided at this meeting
- By faxing your comment to (702) 515-5023
- By emailing your comment to blm_nv_sndo_searchlightwindenergyEIS@blm.gov
- By mailing your comment to:

Gregory Helseth
Renewable Energy Projects Manager
BLM Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, Nevada 89130

Comments must be postmarked by April 18, 2012 to ensure that they will be considered in the Final Environmental Impact Statement

Comment Disclaimer: Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Making effective comments

Your comments and questions are critical to the environmental review process. They will be addressed in the Final Environmental Impact Statement.

- Are there additional issues that need to be considered
- Is there additional information, data, or analysis which should be considered
- Is information, data, or analysis incorrect or not thoroughly considered?

Below are several tips for making effective comments:

- Be brief so the reviewer does not miss the point of your comment.
- Be specific so the reviewer clearly understands your concerns. Say "I am concerned about how this will affect…" rather than just saying "Don't do this."
- Know your subject so the comments are both focused and accurate
- State the facts and back them up where possible. Be sure to reveal your sources of information to help make your point.
- Be honest and realistic. Distortions of facts or misstatements may cause the reviewer to question the accuracy of your other statements. Requests that are not legal or feasible also reduce the credibility of your comments.
- Be polite. Even though you may be upset about a proposal, try to state your opinion objectively. Communication is increased by extending the same courtesies to agency staff that you expect from them

Comment Disclaimer: Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Frequently Asked Questions

1. What is NEPA?
NEPA stands for the National Environmental Policy Act of 1969. All proposed actions affecting public lands or resources must be reviewed for NEPA compliance. NEPA procedures ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.

2. What is an EIS?
"EIS" is the abbreviation for environmental impact statement, a document prepared to describe the effects of proposed activities on the environment. "Environment," in this case, is defined as the natural and physical environment and the relationship of people with that environment. This means that the "environment" considered in an EIS includes land, water, air, structures, living organisms, environmental values at the site, and social, cultural, and economic factors.

An "impact" is a change or consequence that results from an activity. Impacts can be positive or negative, or both. An EIS describes impacts, as well as ways to "mitigate" impacts. To "mitigate" means to lessen or remove negative impacts.

Therefore, an EIS, is a document that describes the impacts on the environment as a result of a proposed action. It also describes impacts of alternatives, as well as plans to mitigate the impacts.

3. Why was an EIS written for the project?
This level of analysis is conducted for major federal actions that significantly affect the quality of the human environment. The purpose of an EIS is to ensure that the policies and goals of NEPA are used in the ongoing programs and actions of the federal government.

4. Has the BLM made a decision on project approval?
No. NEPA and other regulations establish procedures to ensure proper consideration of environmental concerns, but they do not dictate a particular result or decision. "The NEPA process is intended to help public officials make decisions that are based on the understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." A decision will not be made until the NEPA process has been completed, meaning the BLM will not make a decision until completion of the Final EIS. The BLM will then issue a Record of Decision (ROD) to document the decision.

5. When will my comment be addressed?
All comments that are received or postmarked by April 18, 2012 will be considered and addressed in the Final Environmental Impact Statement.

6. Does my comment matter?
Yes. The BLM will take public comments into consideration when making their decision. You are a very important part of the environmental review process for this project.

7. Why isn't the BLM answering/addressing the public's questions/concerns in today's meeting?
The BLM is answering/addressing questions and comments during the open house session and after the public comment portion of the meeting if time allows. This is a public hearing as required under NEPA and is more formal than a public scoping meeting where the agency is seeking input on the proposal. The BLM wants to give the opportunity to make a public comment to as many people as possible. Responding to comments during this meeting would take up a lot of the meeting time and would not allow as many people to make a comment. Additionally, by responding to comments and questions in the Final EIS, BLM will have the opportunity to do additional research, if necessary, and to formulate accurate and thorough responses.

BLM

8. What alternatives were considered?

- **Proposed Action:** 96 Wind Turbine Generator Layout Alternative
- **BLM Preferred Alternative**: 87 Wind Turbine Generator Alternative
- **No Action Alternative**

9. What is the difference between the Proposed Action and the BLM-preferred alternative?

The 96 Wind Turbine Generator (WTG) Layout Alternative is the "Proposed Action," which means it was proposed by the applicant, Searchlight Wind Energy, LLC. Based on the findings in the DEIS, BLM determined the 87-WTG Layout Alternative to be the Preferred Alternative because it would have less land disturbance, less effect on sensitive biological resources, and still meet the Purpose and Need for the project. In addition, the 96 WTG Layout Alternative would exceed the threshold for particulate matter emissions during construction, even after mitigation, whereas the 87-WTG Alternative Layout would not exceed those thresholds.

10. What is wind energy?

The terms "wind energy" or "wind power" describe the process by which the wind is used to generate mechanical power or electricity. Wind turbines convert the kinetic energy of the wind into mechanical power. This mechanical power can be used for specific tasks (such as grinding grain or pumping water) or a generator can convert this mechanical power into electricity to power homes, businesses, schools, and the like.

11. How much energy will the facility produce?

According to the American Wind Energy Association, 1 megawatt (MW) of wind-generated power can supply electricity to approximately 240 to 300 households per year. If the project is approved, the Searchlight Wind Energy Project would produce enough energy to power approximately 50,000 homes.

12. Will access to the project area be restricted?

Public access would not be restricted in the project area after construction. During construction, some areas may be restricted for safety reasons. Restricted areas may include areas with exposed trenches, turbine assembly sites, construction staging areas, or other areas with potential hazards.

13. Do wind turbines pose a safety hazard?

Unlike most other generation technologies, wind turbines do not use combustion to generate electricity, and hence don't produce air emissions. The only potentially toxic or hazardous materials are relatively small amounts of lubricating oils and hydraulic and insulating fluids. Therefore, contamination of surface or ground water or soils is highly unlikely. The primary health and safety considerations are related to blade movement and the presence of industrial equipment in areas potentially accessible to the public. Like all electrical generating facilities, wind generators produce electric and magnetic fields.

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form

Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: _____

Your Name: _____ Name: _____

Address: _____ Address: _____

City/State/Zip: _____ City/State/Zip: _____

Please check all that apply:

___ Add my name to the mailing list for this project

___ Do not include my name on the mailing list

___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Please deposit your comment form into one of the boxes provided at the meeting or
Fold, tape top of form, and mail your comments to the address below:

Bureau of Land Management
Las Vegas Field Office
ATTN: Gregory Helseth
Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-2301

Place
Stamp
Here

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Frequently Asked Questions

1. What is NEPA?
NEPA stands for the National Environmental Policy Act of 1969. All proposed actions affecting public lands or resources must be reviewed for NEPA compliance. NEPA procedures ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.

2. What is an EIS?
"EIS" is the abbreviation for environmental impact statement, a document prepared to describe the effects of proposed activities on the environment. "Environment," in this case, is defined as the natural and physical environment and the relationship of people with that environment. This means that the "environment" considered in an EIS includes land, water, air, structures, living organisms, environmental values at the site, and social, cultural, and economic factors.

An "impact" is a change or consequence that results from an activity. Impacts can be positive or negative, or both. An EIS describes impacts, as well as ways to "mitigate" impacts. To "mitigate" means to lessen or remove negative impacts.

Therefore, an EIS, is a document that describes the impacts on the environment as a result of a proposed action. It also describes impacts of alternatives, as well as plans to mitigate the impacts.

3. Why was an EIS written for the project?
This level of analysis is conducted for major federal actions that significantly affect the quality of the human environment. The purpose of an EIS is to ensure that the policies and goals of NEPA are used in the ongoing programs and actions of the federal government.

4. Has the BLM made a decision on project approval?
No. NEPA and other regulations establish procedures to ensure proper consideration of environmental concerns, but they do not dictate a particular result or decision. "The NEPA process is intended to help public officials make decisions that are based on the understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." A decision will not be made until the NEPA process has been completed, meaning the BLM will not make a decision until completion of the Final EIS. The BLM will then issue a Record of Decision (ROD) to document the decision.

5. When will my comment be addressed?
All comments that are received or postmarked by April 18, 2012 will be considered and addressed in the Final Environmental Impact Statement.

6. Does my comment matter?
Yes. The BLM will take public comments into consideration when making their decision. You are a very important part of the environmental review process for this project.

7. Why isn't the BLM answering/addressing the public's questions/concerns in today's meeting?
The BLM is answering/addressing questions and comments during the open house session and after the public comment portion of the meeting if time allows. This is a public hearing as required under NEPA and is more formal than a public scoping meeting where the agency is seeking input on the proposal. The BLM wants to give the opportunity to make a public comment to as many people as possible. Responding to comments during this meeting would take up a lot of the meeting time and would not allow as many people to make a comment. Additionally, by responding to comments and questions in the Final EIS, BLM will have the opportunity to do additional research, if necessary, and to formulate accurate and thorough responses.

BLM

8. What alternatives were considered?

- **Proposed Action:** 96 Wind Turbine Generator Layout Alternative
- **BLM Preferred Alternative**: 87 Wind Turbine Generator Alternative
- **No Action Alternative**

9. What is the difference between the Proposed Action and the BLM-preferred alternative?

The 96 Wind Turbine Generator (WTG) Layout Alternative is the "Proposed Action," which means it was proposed by the applicant, Searchlight Wind Energy, LLC. Based on the findings in the DEIS, BLM determined the 87-WTG Layout Alternative to be the Preferred Alternative because it would have less land disturbance, less effect on sensitive biological resources, and still meet the Purpose and Need for the project. In addition, the 96 WTG Layout Alternative would exceed the threshold for particulate matter emissions during construction, even after mitigation, whereas the 87-WTG Alternative Layout would not exceed those thresholds.

10. What is wind energy?

The terms "wind energy" or "wind power" describe the process by which the wind is used to generate mechanical power or electricity. Wind turbines convert the kinetic energy of the wind into mechanical power. This mechanical power can be used for specific tasks (such as grinding grain or pumping water) or a generator can convert this mechanical power into electricity to power homes, businesses, schools, and the like.

11. How much energy will the facility produce?

According to the American Wind Energy Association, 1 megawatt (MW) of wind-generated power can supply electricity to approximately 240 to 300 households per year. If the project is approved, the Searchlight Wind Energy Project would produce enough energy to power approximately 50,000 homes.

12. Will access to the project area be restricted?

Public access would not be restricted in the project area after construction. During construction, some areas may be restricted for safety reasons. Restricted areas may include areas with exposed trenches, turbine assembly sites, construction staging areas, or other areas with potential hazards.

13. Do wind turbines pose a safety hazard?

Unlike most other generation technologies, wind turbines do not use combustion to generate electricity, and hence don't produce air emissions. The only potentially toxic or hazardous materials are relatively small amounts of lubricating oils and hydraulic and insulating fluids. Therefore, contamination of surface or ground water or soils is highly unlikely. The primary health and safety considerations are related to blade movement and the presence of industrial equipment in areas potentially accessible to the public. Like all electrical generating facilities, wind generators produce electric and magnetic fields.

Appendix A-4: BLM Response to Comments on the DEIS

Federal Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

APR 18 2012

Gregory Helseth
Bureau of Land Management/Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130-2301

Subject: Draft Environmental Impact Statement for the Searchlight Wind Energy Project, Clark County, Nevada (CEQ #20120010)

Dear Mr. Helseth:

The U.S. Environmental Protection Agency (EPA) has reviewed the January 2012 Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project in Clark County, Nevada. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA supports increasing the development of renewable energy resources, as recommended in the National Energy Policy Act of 2005, in an expeditious and well planned manner. Using renewable energy resources such as wind power can help the nation meet its energy requirements while reducing greenhouse gas emissions. We encourage BLM to apply its land management and regulatory authorities in a manner that will promote a long-term sustainable balance between available energy supplies, energy demand, and protection of ecosystems and human health.

According to the subject DEIS, Searchlight Wind Energy, LLC, a subsidiary of Duke Energy, has filed an application for a right-of-way authorization with the Bureau of Land Management to construct, operate, maintain, and decommission a wind energy facility that would generate up to 200 MW of energy and be located on approximately 18,949-acres of both private and BLM-administered land. The proposed Project would include wind turbine generators, an operations and maintenance facility, transmission line, four meteorological masts, laydown areas, a temporary rock crusher and concrete batch plant, two substations, and access roads. In addition, the Western Area Power Administration has submitted a ROW application to the BLM to construct, operate and maintain a new switching station to interconnect the Searchlight Wind Energy Project (SWEP).

On December 17, 2008, EPA provided formal scoping comments for the proposed Project. We identified several issues, including potential impacts to water resources, air quality, habitat, vegetation, and wildlife, as well as the cumulative impacts to these resources.

Based on our review of the subject DEIS, we have rated the project and the document as *Environmental Concerns – Insufficient Information* (EC-2). Please see the enclosed "Summary of Rating Definitions." An "EC" signifies that EPA's review of the DEIS has identified environmental impacts that should be avoided in order to provide adequate protection for the environment. A "2" rating signifies that the DEIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment. EPA is concerned with the impacts to air quality, water resources, biological resources, and cultural resources; as well as with the scope of the cumulative impact analysis. In the enclosed detailed comments, we provide specific recommendations regarding analyses and documentation needed to assist in assessing potential significant impacts from the proposed Project.

We appreciate the opportunity to review this DEIS and are available to discuss our comments. Please send one hard copy and one CD ROM copy of the FEIS to this office at the same time it is officially filed with our Washington D.C. Office. If you have any questions, please contact me at (415) 972-3521, or Anne Ardillo, the lead reviewer for this project. Anne can be reached at (415) 947-4257 or ardillo.anne@epamail.epa.gov

Sincerely,

Kathleen Martyn Goforth, Manager
Environmental Review Office (CED-2)

Enclosures: EPA Summary of Rating Definitions
EPA Detailed Comments

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

US EPA DETAILED COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED SEARCHLIGHT WIND ENERGY PROJECT, CLARK COUNTY, NEVADA, APRIL 18, 2012.

Air Quality

The DEIS analyzes the proposed 96-Wind Turbine Generator Alternative and an 87-WTG Alternative, and indicates that BLM selected the 87-WTG Alternative as the Preferred Alternative, in part, because it would minimize impacts to sensitive biological resources and air quality. According to the DEIS, the 96-WTG Alternative would exceed the threshold for particulate matter emissions during construction, even after mitigation (p. ES-xiii). In contrast, under the preferred alternative, tailpipe and fugitive dust emissions generated from construction equipment would not contribute to regional exceedances of the National Ambient Air Quality Standards (NAAQS) for criteria air pollutants (p. ES-xvi). It is unclear what standard thresholds were used for particulate matter emissions.

Recommendation:
In the FEIS, explain what standard thresholds for particulate matter emissions were used. EPA recommends that the FEIS include, in tabular format for each alternative project, emission contributions toward NAAQS, and demonstrate whether or not each alternative will contribute to regional exceedances based on these standards.

Section 4.6-Air Quality Impacts has been amended to use the correct PM-10 emissions threshold of 70 tons/year. Section 4.6-Air Quality Impacts has been updated to include, in tabular format, each alternative, emission contributions toward NAAQS, and demonstrate whether or not each alternative will contribute to regional exceedances based on these standards.

The current de minimis levels for the Las Vegas area are: CO 100 tons/year; NO_x 100 tons/year; and PM_{10} 70 tons/yr. The DEIS states that the yearly construction emissions for the 87 WTG Layout would be less than the de minimis thresholds as specified under the General Conformity Rule (40 CFR 93), thus conforming to the SIPs and the regional air quality plans. This statement appears to be incorrect, since Table 4.6-5 shows that the proposed Project PM10 levels will exceed the current de minimis level in that area.

Recommendation:
Clarify, in the FEIS, for each alternative, whether PM10 levels exceed current de minimis levels in that area. EPA recommends BLM work with the local air district and EPA to complete the evaluation and to determine whether general conformity can be achieved.

Section 4.6-Air Quality Impacts has been amended to use the correct PM-10 emissions threshold of 70 tons/year. BLM and Applicant will work with the local air district and EPA to complete the evaluation and to determine whether general conformity can be achieved.

Water Resources

Drainages and Ephemeral Washes
Natural washes perform a diversity of hydrologic, biochemical, and geochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapted to their unique conditions. The potential damage that could result from disturbance of flat-bottomed washes includes alterations to the hydrological functions that natural channels provide in arid ecosystems, such as adequate capacity for flood control, energy dissipation, and sediment movement; as well as impacts to valuable habitat for desert

species. The DEIS provides minimal information on the direct and indirect impacts to these resources as a result of the proposed Project and fails to consider the up- and downstream reach and extent of these aquatic features or their importance in this desert landscape.

Recommendations:
The FEIS should characterize the functions of aquatic features, such as washes, on the proposed Project site and discuss potential mitigation for impacts to those not subject to protection as waters of the U.S.

To avoid and minimize direct and indirect impacts to desert washes (such as erosion, migration of channels, and local scour):

- Do not place turbine support structures in washes or waters;
- Commit to the use of natural washes, in their present location and natural form and including adequate natural buffers, for flood control to the maximum extent practicable.
- Demonstrate that the proposed Project layout, roads, and drainage channels have been configured to avoid ephemeral washes, including desert dry wash woodlands within the proposed Project's footprint.
- Include a functional assessment of the waters on the proposed Project site and describe the changes to the function of those waters that would result from the proposed Project.

Section 3.3-Water Resources characterizes the function of ephemeral washes as periodic storm water conveyance. MM-Water-1-7 and APMs 1, 4, and 5 accomplish these objectives as they are designed to protect and maintain the function of the existing ephemeral drainages to the extent possible.

Fencing
The DEIS does not provide information about fencing nor the effects of fencing on drainage systems. By entraining debris and sediment, fencing can interfere with natural flow patterns. Fence design should address hydrologic criteria, as well as security performance criteria.

Recommendations:
Provide more detailed information, in the FEIS, about fencing and potential effects of fencing on drainage systems. Ensure that the fencing proposed for this project will meet appropriate hydrologic performance standards.

Review the National Park Service's published article[1] on the effects of the international boundary pedestrian fence on drainage systems and infrastructure, and ensure that such issues are adequately addressed with this project.

Section 2.3.3-Public Access and Safety has been updated to reflect that project fencing would be designed and constructed to meet appropriate hydrologic performance standards both for flows and to protect water quality and meet regulatory requirements.

Floodplain Hazards
Executive Order 11988 Floodplain Management requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of floodplains. According to the DEIS, approximately 0.32 square mile of a FEMA designated Zone A 100-year floodplain traverses the southwestern part of the proposed Project. Another designated 100-year floodplain lies immediately outside the northeastern boundary of the project area. Drainage within the proposed Project area occurs via sheet flow, and extreme

[1] National Park Service, August 2008, Effects of the International Boundary Pedestrian Fence in the Vicinity of Lukeville, Arizona, on Drainage Systems and Infrastructure, Organ Pipe Cactus National Monument, Arizona,

rain events can result in substantial damage due to flood waters across the project and localized areas (p. 4-18).

Recommendations:
Include in the FEIS an evaluation of the project to demonstrate the project's compliance with Executive Order 11988.

The FEIS should provide a detailed description of the current FEMA floodplain.

The results of consultation with FEMA, if appropriate, should be included in the FEIS.

The FEIS includes a description of the possible presence of a FEMA mapped flood hazard zone and include potential impacts, if any, on the Project and describe mitigating measures to reduce possible flood impacts.

Water Supply
The DEIS states that all water would be obtained from either the existing Searchlight Water System, which is supplied by two wells, or another existing water right in the Searchlight area and transported to the proposed Project site. No wells would be drilled or springs developed for use by the proposed Project (p. 4-15). According to the 2006 Searchlight Water Conservation Plan, water is currently supplied to residents by the aforementioned two wells (S-1 and S-2). Well S-2 was drilled in 1990 and is the primary production well. The water table at Well S-2 has declined steadily over time. The plan indicates that, should this trend continue, Well S-2 will be unable to meet projected future demands for the town of Searchlight. Well S-1 was drilled in 1983 and serves as an emergency backup well, with limited resource and pumping capacity (p. 1).

Recommendation:
The FEIS should confirm the availability of an adequate water supply for construction and operations of the proposed Project and fully evaluate the environmental impacts associated with the ultimately proposed supply of water.

The Applicant will coordinate with the Las Vegas Valley Water District to support the water needs for the project. If sufficient resources are not available, the Applicant will procure water from local willing sellers.

Clean Water Act (CWA) Section 404 Jurisdictional Determination
According to the DEIS, a formal jurisdictional delineation was conducted and identified areas under the jurisdiction of the US Army Corps of Engineers. USACE jurisdictional non-wetland Waters of the US total 0.174 acres, with no USACE jurisdictional wetlands occurring (p. 3-16). According to Chapter 4 of the DEIS, the approved jurisdictional determination stated that the USACE would require a Section 404 permit (p. 4-19). It is our understanding that the proposed Project may qualify for a Nationwide Section 404 Permit for construction of an access road and drainage system crossing jurisdictional waters located within the boundaries of the proposed Project.

Recommendation:
The FEIS specify whether the project will require an individual section 404 permit or be covered under a nationwide permit, and should include a final determination of the extent of jurisdictional waters at the project site.

See Section 3.3.2.6-Jurisdictional Waters, Drainages, and Riparian Areas, for determination of jurisdictional waters at the project site. It is anticipated the Project would qualify for a Nationwide Section 404. The Corps is planning on processing the application upon completion of the NEPA process.

Biological Resources

EPA is concerned about potential impacts to sensitive wildlife species, since the proposed area supports resident and migratory birds, mammals, reptiles, and their supporting habitats, including desert tortoise, golden eagles, burrowing owls, desert bighorn sheep, chuckwallas, and many bat species. Long-term impacts may occur as a result of permanent loss of habitat, increased predation, habitat fragmentation, and collisions with wind turbines and vehicles.

Consultation and Coordination with U.S. Fish and Wildlife Service
The DEIS states that the applicant and Western Area Power Administration have prepared a Biological Assessment to assess SWEP impacts on desert tortoise and will submit it to the US Fish and Wildlife Service for a Biological Opinion. The BO should play an important role in informing the decision on which alternative to approve and what commitments, terms, and conditions must accompany that approval; however, it is unclear whether a BO is currently under development specific to the resources identified. It is also unclear whether USFWS has reviewed or commented on the adequacy of the surveys and monitoring of biological resources conducted to date.

Recommendations:
We urge BLM to coordinate with USFWS on the timing of the Biological Opinion and the FEIS. Ideally, the FEIS should be published after the BO has been released, and should include the BO as an appendix. If this is not possible, the FEIS should provide an update on the consultation process and explain how the BO will be factored into BLM's decision making.

Mitigation and monitoring measures that result from consultation with USFWS to protect sensitive biological resources should be included in the FEIS and, ultimately, the Record of Decision.

Discuss, in the FEIS, coordination with USFWS and their review of the surveying, monitoring, and reporting protocols completed to date. Include a commitment to consistent application of USFWS supported methods in future protection and mitigation efforts.

USFWS finalized the voluntary Land-Based Wind Energy Guidelines on March 23, 2012, which provide a structured scientific process for addressing wildlife conservation concerns at all stages of land-based wind energy development. They also promote effective communication among wind energy developers, government agencies and local conservation organizations and tribes. The Guidelines use a "tiered approach" for assessing adverse effects to species of concern and their habitats.[2].

[2] US Fish and Wildlife, Land-Based Wind Energy Guidelines, March 23, 2012, Available: http://www.fws.gov/windenergy/

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

Recommendation:
Coordinate with USFWS to incorporate recommendations from the recently published USFWS Land-Based Wind Guidelines into the FEIS and ROD. Given the current status of the project, Tier 3 of the Guidelines (Field Studies and Impact Prediction) may be the most appropriate section with which to start.

Refer to Section 5.2.3-Coordination on the BBCS and Appendix B-4: Bird and Bat Conservation Strategy (formerly referred to as the Avian and Bat Protection Plan [ABPP]), which have been added to the EIS.

Bats
According to the U.S. Geological Survey, bat fatalities have been documented at nearly every wind facility in North America where adequate surveys for bats have been conducted. Thousands of bats are estimated to have been killed each year at these sites. The DEIS indicates that 13 out of 16 bat species found in SWEP area have some federal or State special status and that bat activity in the area is generally considered to be lower than at other locations in Nevada (p. 3-25). EPA is concerned that bat use at the proposed site may have been underestimated.

According to the DEIS, no topographic or habitat features that are considered bat attractants exist within or immediately adjacent to the proposed Project area, and that accounts for the low bat use. Table 3.1-2, indicates that there are 561 active and 1,862 closed mining claims within and adjacent to the proposed Project area, however, it is unclear how many represent mining operations. Abandoned mines often serve as roosting sites and maternity colonies and are prime habitat for many different types of bats. Bat surveys conducted in 2008-2009 and 2009-2010 indicated that only two mining complexes were monitored for both years. Given the large number of mining claims and the historic use of the area, it is unclear if there are additional mines that should be surveyed. The DEIS acknowledges that no correlation has been established between preconstruction surveys and post-construction fatalities (NWCC30, 2010); therefore, even though bat activity in the area may be lower than at other locations in Nevada, the proportional effects on the bat population cannot be predicted.

BLM reviewed the mine information in the area and selected the mines that they were most concerned about due to previous surveys and possible hibernacula.

Acoustic monitoring at the Project revealed the presence of 16 species of bats, which is a relatively high diversity. The richness reflects the topographical diversity found at the Project, which accounts for available foraging and roosting habitats (O'Farrell 2010). The level of species richness may also be a function of intensive sampling over 2 full years, unlike many acoustic-monitoring studies, which are limited to certain seasons. Taking this into consideration, it is unlikely that bat diversity and use of the area have been underestimated.

Recommendation:
The FEIS should clarify the number of mine sites in and adjacent to the proposed Project area. BLM should consider whether bat surveys should be conducted at additional mine sites. It not, the FEIS should explain the rationale for surveying only 2 mining complexes.

The DEIS states that detention ponds will be used to control stormwater flow offsite (p. 2-36). We are concerned that these basins may provide a water source for bats and serve as an attractant to the SWEP site.

Detention ponds would be a temporary bat attractant, but would be reclaimed after construction is completed as stated in MM-BIO-1. Refer to Section 2.3.2-Construction under Temporary Concrete Batch Plant for a description of wildlife deterrent measures. If necessary, an artificial pond permit would be obtained from the Nevada Department of Wildlife. The artificial pond permit would require regular inspection, maintenance, and reporting of wildlife mortality.

Recommendations:
Incorporate design features for proposed detention basins (e.g. pond netting, fencing), and commit to regular inspection and maintenance, to ensure proper protection of bats, birds, and wildlife.

The FEIS should describe avoidance measures to deter bats from roosting in the additional man-made structures.

The only permanent structures include the O&M building, WTGs, and the switching station, which are all unlikely to provide roosting opportunities; therefore, no mitigation measures are proposed.

Migratory Birds
EPA is concerned that avian use at the proposed site may have been underestimated. For example, the DEIS concludes that, compared with raptor use of other wind energy facilities, raptor use at the proposed Project area is relatively low and, therefore, raptor negative interactions would be minimized and mortality is anticipated to be low (p. 4-36). However, it is unclear whether prey availability or variations in biotic factors were considered or accounted for when the avian surveys were conducted. Raptor nesting surveys conducted in 2009 and 2010 demonstrated that 23 red-tailed hawk nests were found within the project area and 10-mile buffer. The DEIS does not explain if the number of raptor nests found was of any significance, and if they were factored in determining the proposed Project area's raptor use.

The DEIS also states that the proposed Project area does not receive a large influx of breeding birds during spring and migrants pass through infrequently, suggesting that birds are not abundant and most fly below the rotor sweep area. These results suggest a low likelihood of interactions with turbines and a low overall risk to birds (p. 4-35). However, avian surveys conducted in 2007-2009 do not account for nocturnal migrants. The avian report acknowledges that, at newer generation wind energy facilities outside of California, approximately 80 percent of documented mortalities have been songbirds, of which 50 percent are often nocturnal migrants. In addition, calculations used to determine the encounter rates for the proposed Project did not account for the migrating behavior of nocturnal migrants.

Recommendations:
Elaborate on risk assessment methods and how seasonal, prey, and biotic variations and uncertainty of avian and bat numbers and use were accounted for.

Conduct nocturnal avian surveys to account for avian species that migrate at night and incorporate the results in risk assessment, siting, mitigation and avoidance measures.

The DEIS indicates that the Pacific Flyway, a major migratory route for millions of birds and waterfowl, extends through the western portion of the proposed Project area (p. 3-29). While this is disclosed in the document, it is not discussed in the avian use analysis.

Recommendation:
Include a discussion of the Pacific Flyway in the avian use analysis of the proposed Project site.

The DEIS states that an Avian and Bat Protection Plan (MM BIO-5) will be developed that will include pre-construction surveys and post-construction monitoring. The ABPP will incorporate mitigation requirements and adaptive techniques to minimize impacts to avian and bat species and will span a 3-year period (p. 2-30).

Recommendations:
Include a copy of the Avian and Bat Protection Plan in the FEIS and ROD. The ABPP should describe how mortalities of red-tailed hawks and other avian species will be assessed and evaluated for compliance with the Migratory Bird Treaty Act.

Refer to Section 5.2.3-Coordination on the BBCS and Appendix B-4: Bird and Bat Conservation Strategy (formerly referred to as the Avian and Bat Protection Plan [ABPP]), which have been added to the EIS.

Early in the project methods nocturnal avian surveys were considered. However, little data exists that correlates migrant passage rate with mortality at wind farms; therefore, it was determined that nocturnal migrant surveys would not help in assessing impacts to birds. For more information refer to Appendix B-4: Bird and Bat Conservation Strategy.

Added a discussion of the bird use in the area relative to the Pacific Flyway in Section 4.4.5.11 Migratory Birds - Direct and Indirect Effects by Alternative and in Appendix B-4: Bird and Bat Conservation Strategy.

Appendix B-4: Bird and Bat Conservation Strategy has been added to the EIS.

Golden Eagles
In 2009, a helicopter survey for raptor nests within the project boundary and a 2-mile buffer was conducted and no active golden eagle nests were found. In 2011, another survey was conducted between a 2-mile and a 10-mile buffer of the project area. All golden eagles identified were located on cliffs at least 4 miles from the project area. In addition, two nests were located approximately 10 miles from the project site boundary (p. 3-31). The 2011 raptor nesting survey references studies conducted in Idaho and suggests that golden eagle home range size should not overlap the project boundary; however, it acknowledges that data from a more xeric environment is lacking and home range of these golden eagles cannot be estimated from the nest data alone. In February 2011, USFWS issued Draft Eagle Conservation Plan Guidance. The Eagle Conservation Plan Guidance provides the background information necessary for wind energy project proponents to identify appropriate siting, design, and operational modifications that can be incorporated into an Eagle Conservation Plan (ECP) that will assess the risk of their project(s) to eagles and how to mitigate that risk.

> *Recommendation:*
> Coordinate with USFWS on the development of an Eagle Conservation Plan and post-construction fatality monitoring. Include the ECP in the FEIS.

Appendix B-4: Bird and Bat Conservation Strategy has been added to the EIS. The decision if a take permit (and associated ECP) is being requested is between the FWS and Searchlight Wind Energy, LLC.

Cumulative Impact Assessment

Cumulative impacts are defined in the Council on Environmental Quality's (CEQ) NEPA regulations as "the impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonable foreseeable future actions, regardless of what agency (Federal or non-Federal) or person undertakes such actions (40 CFR Part 1508.7)". The DEIS indicates that, within the project vicinity, there are ongoing mining operations (at a small scale), electric transmission lines, pipelines and a nearby airport. We understand, however, that there may be two solar projects nearby: American Capital Energy/ Searchlight Solar LLC, 1.5 miles northwest west of Searchlight (currently in the permitting process), and Nevada Solar One in Boulder City. It is unclear why these were not included in the cumulative impact assessment.

The DEIS states that the geographic boundary utilized for the assessment of cumulative impacts is defined as the SWEP area and an immediately adjacent buffer sized 25 % larger than the project area (p. 4-129). The DEIS identifies resources affected by the proposed Project and the Western transmission line, provides a brief description and cumulative impact discussion and discusses the rationale for spatial scope of the analysis (Table 4.20-1). In its cumulative impact analysis, there is no mention of the project's potential effects on the health of the area's population of threatened desert tortoise. CEQ guidance indicates[3] that choosing the appropriate scale to use for cumulative effects analyses is critical (CEQ Guidance, p. 12). According to the guidance, the geographic areas occupied by affected resources outside of the project impact zone should be identified, and in most cases, the largest of these areas will be the appropriate area for

[3] Council on Environmental Quality, "Considering Cumulative Effects Under the National Environmental Policy Act, January 1997. Available: http://ceq.hss.doe.gov/publications/cumulative_effects.html

the analysis of cumulative impacts (CEQ Guidance, p. 15). CEQ suggests that, for resident wildlife, a species' habitat or ecosystem should be used in a cumulative impact analysis.

Recommendations:
EPA recommends that the BLM expand its cumulative impact assessment to include the Searchlight and Nevada Solar One solar projects and any other past, present, or reasonably foreseeable future actions that may affect the same resources as the proposed Project.

EPA recommends that the impacts to the threatened Mojave desert tortoise be included in the cumulative impact assessment. We recommend consulting with the USFWS on an appropriate boundary and spatial scope for this analysis.

Section 4.17 Cumulative Impacts Analysis has been updated.

Consultation with Tribal Governments

Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act. Historic properties under the NHPA are properties that are included in the National Register of Historic Places or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, to consult with the appropriate State Historic Preservation Officer or Tribal Historic Preservation Officer.

Executive Order 13007, Indian Sacred Sites (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian Religious practitioners, and to avoid adversely affecting the physical integrity, accessibility, or use of sacred sites. Executive Order 13175, Consultation and Coordination with Indian Tribal Governments (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States' government-to-government relationships with Indian tribes. President Obama directed all federal agencies to develop an action plan to implement this Executive Order by February 3, 2010. For more information, refer to: http://www.whitehouse.gov/the-press-office/memorandum-tribal-consultation-signed-president.

BLM initiated consultation with the Chemehuevi Indian Tribe, Colorado River Indian Tribes, Fort Mojave Indian Tribe, Hualapai Tribe, Fort Yuma-Quechan Tribe, Las Vegas Paiute Tribe, Moapa Band of Paiute, and Pahrump Paiute Tribe. Consultations are still on-going for this project (p. 5-3). According to the DEIS, Spirit Mountain is a National Historic Place and is also listed as a Traditional Cultural Property for its significance to the Yuman tribes as the spiritual birthplace of the tribes. Spirit Mountain is about 10 miles southeast of the SWEP area. According to the DEIS, BLM is consulting with the Tribes to determine potential visual impacts from the SWEP (p. 3-36).

The DEIS indicates that construction and use of the proposed WTGs and associated access roads will have various levels of direct and indirect adverse effects on two prehistoric and three

historic sites that are eligible for NRHP listing. Types of mitigation recommended for these five sites include consultations between the proponent and the agencies to determine if some project elements can be rerouted or not constructed; development of a Treatment Plan for each eligible site, describing in detail how the impacts would be mitigated; and development of a Memorandum of Agreement outlining all of the affected parties' roles and responsibilities including the Treatment Plans (p. 4-40).

Recommendations:
The FEIS should describe the process and outcome of government-to-government consultation between the BLM and each of the tribal governments within the project area. Discuss issues that were raised, including Spirit Mountain, and how those issues were addressed in relation to the proposed action and selection of a preferred alternative.

Include a copy of each Treatment Plan and MOA in the FEIS.

Refer to Section 5.2.4-Native American Consultation for a summary of the tribal consultation process and results. The comments expressed would not differ between alternatives. An MOA, in consultation with the Nevada SHPO, will be completed prior to the signing of the ROD. Avoidance and proposed cultural mitigation measures as well as an ethnographic/ethno-historic study preclude the need for treatment plans for the NRHP-eligible properties.

National Historic Trails

BLM Wind Energy Development Program Policies and Best Management Plans state that the BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring, testing and development include designated areas that are part of National Historic and Scenic Trails (Appendix C, p. A-2). The development of the SWEP appears to be in conflict with this policy. The DEIS states that a review of historic maps indicates that the Mojave Route of the Old Spanish National Historic Trial is within the SWEP area (p. 3-35). In addition, approximately 1.5 miles of an existing road, which is an element of the proposed Project and proposed for upgrading, crosses the northern portion of the Old Spanish National Historic Trail. Construction activities would have minimal but permanent impacts on the trail (p. 4-94).

Recommendations:
Clarify whether the SWEP will include the Old Spanish National Historic Trail area and whether it will conflict with the BLM Wind Energy Development Program Policies and BMPs.

If mitigation measures are required, include them in the FEIS.

Section 3.5-Cultural Resources has been modified to indicate that existing access roads and/or highways cross the Congressional route of the Mojave Road Variant of the Old Spanish Trail. No surface evidence of the trail is present and the town of Searchlight, bladed roads, and multiple transmission lines has already physically and visually impacted the corridor. No mitigation measures are recommended. In concurrence with the National Trails Intermountain Region Office of the NPS, there would be no conflict with the Mojave Route and this project. The proposed project is consistent with the BLM Wind Energy Development Program and Policies.

Completion of Plans

Searchlight Wind LLC has included a suite of Applicant Proposed Measures to avoid or minimize impacts of the proposed Project on environmental resources. While the DEIS provides expanded discussion on some of them, most of the specific plans associated with the APMs have yet to be developed. In addition, mitigation measures will require development of plans such as the Cactus and Yucca Salvage Plan, Wildlife Mitigation and Monitoring Plan, Terrestrial Wildlife Plan, and Traffic Management Plan.

Implementation of applicant proposed measures are the responsibility of the Applicant as part of the proposed project. Although some mitigation measures have not yet been developed, all the elements of those plans are included in the EIS. The following mitigation plans have been completed and included in the document: Appendix B-1: Weed Management Plan, Appendix B-3: Terrestrial Wildlife Plan, and Appendix B-4: Bird and Bat Conservation Strategy

Recommendation:
Further discussion on all the APMS, such as identification of identifying responsible parties, relative timelines, potential impacts and expected effectiveness should be included in the FEIS. All salvage plans, mitigation and monitoring plans, wildlife plans and traffic management plan should be completed and included in the FEIS and ROD.

BLM requires that mitigation measures are identified as a stipulation of the ROW Grant. Development of mitigation plans often requires input, review, and approval by other regulating agencies such as USFWS, NDEP, DAQ, and NDOT and are not typically completed prior to a Final EIS. However, all the elements and basic requirements of the mitigation plans are discussed throughout the EIS.

United States Department of the Interior

NATIONAL PARK SERVICE
Lake Mead National Recreation Area
601 Nevada Way
Boulder City, NV 89005

IN REPLY REFER TO:

D18
xL30

April 18, 2012

Bob Ross, Field Manager
Bureau of Land Management
Las Vegas Field Office
4701 North Torrey Pine Drive
Las Vegas, NV 89130

RE: Draft Environmental Impact Statement for the Searchlight Wind Energy Project NVN-084626 and NVN-086777

The National Park Service has reviewed the Draft Environmental Impact Statement (DEIS) for the Searchlight Wind Energy Project and offer the following comments.

General Comments:

The National Park Service (NPS) is a cooperating agency in the development of this DEIS, and as such, has provided comments on administrative drafts of this document. The NPS supports the development of renewable energy in the southwestern United States. It should be understood that the NPS comments are offered to refine alternatives to make the proposed project fit in the sensitive environmental setting of the Mojave Desert. Because of the unique purposes for which Congress created Lake Mead National Recreation Area on behalf of the public, we maintain that the proposal should be sensitive to the values of Lake Mead and the associated visitor experience.

In our previous comments, we are on record proposing the relocation or removal of 11 turbines that are located along the Cottonwood Cove Access Road. The reasoning for this request is to provide a minimal setback between the turbines and the visitors traveling the road to enter and experience Lake Mead National Recreation Area. These turbines include turbine numbers 27, 28, 29, 30, 31, and 32 on the north side of the Cottonwood Cove Access Road and turbines 33, 34, 35, 36 and 37 on the south side of the Cottonwood Cove Access Road, as illustrated and numbered on Figure 2-2 on page 2-5. We believe the 11 turbines could be relocated to southern portion of the project area as illustrated in Figure 2.3, the 161 WTG Layout Alternative.

The micro-siting of the 11 turbines is in compliance with BLM guidelines.

In addition, the NPS has previously requested the relocation of the interconnect facility to a location that provides some separation from the park entrance station located on the Cottonwood Cove Access Road. Such a large and mechanical facility located immediately adjacent to the

The location of the switching station is in compliance with BLM guidelines.

park entrance station is not compatible with the designed the entrance to Lake Mead National Recreation Area.

The NPS National Trails Intermountain Region office has reviewed documents and maps associated with the Searchlight Wind Energy Project near Searchlight, Nevada. This office co-administers the Old Spanish National Historic Trail (NHT) with BLM. While this segment is not on our draft list of high-potential segment, it appears that the northern portion of the project area overlies a portion of the Congressionally designated route of the NHT, and that the trail alignment is less than a mile from the southwestern boundary of the project area. We are concerned about the visual impacts of the wind turbine generators on the setting of the Old Spanish NHT and the trail experience. The towers are stated to be up to 427.5 feet high on p. xii, and a construction of this height will be visible for about 25 miles unless screened, using the common rule of thumb of *visible horizon=sqrt (height in feet) x 1.2 miles*. The visual effects could be especially pronounced on the southwestern side of the project, which is currently less impacted by development and urban features, although we see that transmission lines, pipelines, and the US 95 highway cross the area. We recommend some of the westernmost towers on the southwest end of the project could be eliminated or moved further east within the current project area.

Section 3.5-Cultural Resources has been modified to indicate that existing access roads and/or highways cross the Congressional route of the Mojave Road Variant of the Old Spanish Trail. In November of 2012 the BLM consulted with the NPS National Trails Intermountain Region office representative and they concurred with the BLM that there would be no conflict between this route and the project either directly or visually due to this Congressional route already having been adversely impacted from historic and modern improvements along the corridor in the Searchlight Wind Energy Project vicinity. No mitigation is recommended for this project.

In the mitigation section there are a number of additional plans required. There may be additional planning identified as we move through the compliance process. Prior to final approval, the NPS requests the opportunity to review and comment on the Dust Management Plan, Stormwater Pollution Prevention Plan, Spill Prevention Control and Countermeasure Plan, Waste Management Plan, Site Rehabilitation and Facility Decommissioning Plan, Restoration Plan, Traffic Management Plan, and Hazardous Materials Handling Management Plan.

Comment noted.

The NPS also request the opportunity to participate in the development of the Emergency Response Plan and the Lighting Plan. We would seek the opportunity to help develop and implement the Wildlife Mitigation and Monitoring Plan and the Avian and Bat Protection Plan. Lastly, we believe it is important to verify the noise modeling that has been completed for this project by establishing a noise monitoring station within Lake Mead National Recreation Area following the completion of construction of the wind turbine generators. We believe it is incumbent on the project proponent to fund the monitoring elements that are required within the Recreation Area.

Comment noted. These plans have been completed by the technical team including the USFWS, BLM, NDOW, and Tetratec, which has been in place since the beginning of the project. The Terrestrial Wildlife Plan and Bird and Bat Conservation Strategy (formerly known as the Avian and Bat Protection Plan [ABPP]) have been completed and included in the FEIS (Appendix B-3: Terrestrial Wildlife Plan and Appendix B-4: Bird and Bat Conservation Strategy).

Specific comments:

Page xvi, Visual Resources. The plan states, "*All WTGs and Western's proposed switching station would be constructed with the designated visual resources management area (VRM) Class III areas. The project and switching station would introduce weak to moderate levels of contrast, which is the maximum allowable level of change for the VRM Class III areas.*" While this is true, the VRM classification was completed as part of the previous Resource Management Plan and prior to the legislated transfer for land in Section 26, Township 28 South, Range 64 East to be included in Lake Mead National Recreation Area. As part of this EIS process, it was agreed the park entrance station should serve as a Key Observation Point (KOP). It is our position that the view from this KOP is of greater value than the Class III classification provided

A visual resources specialist per BLM Visual Resources Management guidance determined contrast ratings. An updated visual simulation for the proposed Western Switching Station has been included in the FEIS and re-evaluated. Text has been updated for this KOP to reflect a moderate contrast rating, which remains consistent with a Class III Visual Resources Management Area.

in the earlier agency planning. We also maintain the impact will likely be greater than "*weak to moderate*" and therefore find the switching station incompatible with the site selected.

Page 2-1, Lines 28-34. The document states, "*The project is subject to expensive development, transmission upgrade, and construction costs which add to the overall costs. In order for the project to achieve minimum commercial viability for purposes of meeting potential financing criteria, the minimum power generation requirements are 200 MW. The project achieves this minimum threshold of 200 MW using 87 Siemens 2.3 MW turbines. Below the 87 turbine threshold, therefore, the project becomes uneconomic.*" There are no data provided to support this statement and there is no project power agreement to say whether this project is economical or not. And if this statement is accurate, the 97 turbine alternative is not a practical alternative or there needs to be some additional information provided to support the 97 turbine alternative. We assert that a 175 MW alternative using 76 Siemens 2.3 MW turbines is economic and could be developed at this site. Such an alternative would only be necessary if the 11 turbines along the Cottonwood Cove Access Road (listed in our general comments) could not be relocated.

The micro-siting of these 11 turbines is in compliance with BLM guidelines.

Page 2-4, Table 2-7 Mitigation Measures. Under MM NOI-1 it says that construction activities would be limited to "daytime" hours of 7 am to 10 pm. We would appreciate clarification as to why the hours of 7 pm to 10 pm are considered "daytime." Campers and visitors to Lake Mead NRA would expect quieter conditions during these hours, so we are concerned about construction activities occurring during this period and the impacts they would have on resources and visitor experience at Lake Mead.

Comment noted. MM-NOI-1 has been updated to include that blasting would be limited to the hours of 7:00 a.m. to 5:00 p.m. during weekdays only.

Under MM NOI-4 there is mention of maintaining a noise level not to exceed 43 dBA. We would appreciate the addition of a discussion as to how that number was chosen.

The Clark County noise ordinance limit is based on individual octave band limits, rather than an overall dBA number. The dBA scale is more familiar to most people. In order to provide a frame of reference, the individual octave band limits from the ordinance were combined into a single dBA number, which in this case equates to 43 dBA.

Page 2-11, Lines 1-23. The document states, " *Western's primary selection criteria was to site its proposed switchyard within close proximity to the Davis-Mead 230-kV transmission line and meet BLM resource planning requirements, including siting the switchyard outside the Area of Critical Concern (ACEC), except for ½ mile area adjacent to a federally designated highway, per the BLM Resource Management Plan. In addition, Western's site must comply with Federal and utility regulation which governs the power industry. Interconnections must have a redundant and diversely-routed communications for reliability; therefore, the switchyard location must have line-of-sight to one of Western's nearby mountain-top communication sites for the primary communication path. The second, redundant communications path is less restrictive but also guided by regulation. Other operational requirements also impact location, including all-weather access to the switchyard during storm events and access to distribution power lines to provide primary station service power.*" The concern with this paragraph is that we believe Western failed to fully consider other alternatives to the site selected immediately adjacent to the National Park Service entrance station. It remains our position to relocate this facility to a location that does not conflict with the entrance to Lake Mead National Recreation Area. It may cost more to eliminate the conflict between the two facilities, but locating it immediately adjacent to the entrance to Lake Mead National Recreation Area is not appropriate.

The location of the switching station is in compliance with BLM guidelens. See Section 2.2.3-Western's Interconnection Switching Station Location Alternatives, for a discussion of alternatives considered but eliminated.

Page 2-31, Lines 2-11. We recommend the description of the proposed switching station location include the proximity to the entrance to Lake Mead National Recreation Area. The

Section 4.2.1-Western's Interconnection Switching Station has been updated to include the proximity of the proposed switching station to the NPS Entrance Station.

proposed facility would be right next to the park's entrance station, yet the project description fails to acknowledge this existing facility. In fact, the walls surrounding the proposed facility will abut the traffic monument on the north side of the entrance station. The electrical towers within the switching station will dwarf the entrance station and dominate the view as one approaches the entrance station.

Page 2-43, Interim Reclamation. The mitigation plan calls for the collection, storage and re-application of top soil. We have had some recent experience with top soil restoration efforts on Northshore Road and U.S. Highway 93 both in Arizona and Nevada. Top soil based restoration programs require planning ahead of time. We recommend a top soil management plan be required that outlines how the contractor will collect, store and reapply the top soil. Further, as part of the bid process, we recommend the management of topsoil be a separate bid item.

Comment noted. A reclamation plan is a condition of the bonding process and will be approved by the BLM (BLM-IM-2009-043).

Page 3-46, Figure 3.8-1. This figure illustrates the Existing ROWs in the Project Area. It clearly shows the switching facility overlaying the National Park Service lands along the Cottonwood Cove Access Road at the entrance station. We believe this is an error. We recommend the Figure be revised to eliminate this conflict.

Figure 3.8-1. Existing ROWs in the Project Area. has been revised. The proposed project would not encroach on NPS ROW.

In addition to the NPS lands at the entrance station location, there is a NV Power right-of-way that extends north of the entrance station to the existing powerline. The switching facility will be located on top of this powerline as illustrated in Figure 3.8-1.

Page 3-50, Lines 22-30. The document states, "*Material site ROWs are allowed only within 0.5 miles of the centerline of Federal aid Highways and specified county roads, including US-95 and Cottonwood Cove Road (SR 164) (BLM 1998)*". We have stated in our earlier comments, that the Cottonwood Cove Access Road (east of Searchlight) is owned and maintained by Clark County and not a State Highway. SR 164 only exists on the west side of Searchlight. It is not clear if the County Road east of Searchlight is a Federal Aid Highway. We would appreciate any supporting information from Clark County or the Nevada Department of Transportation that this road is a Federal Aid Highway.

For a map of Federal Aid Highways that included SR 164 see the following link:

http://www.nevadadot.com/uploadedFiles/NDOT/About_NDOT/NDOT_Divisions/Planning/Roadway_Systems/FCM_Clark.pdf

Page 3-55 & 3-60. Note that BLM Visual Resource Management guidelines do not address visual resources at night. The omission of dark skies in the BLM VRM methodology should be mentioned in either section 3.9 or section 3.9.4.7.

Refer to Section 3.9.4.7-Dark Skies for a discussion of dark skies policy.

Page 3-60, Lines 9-10. The document states, *"No designated scenic vistas or state-designated scenic highways are within or within view of the Proposed Project Area."* While this statement is technically true, the drive down to Lake Mohave from Searchlight on the Cottonwood Cove Access Road is highly scenic and steps should be taken to protect that scenic drive. This is the foundation for our earlier comment to relocate 11 turbines currently proposed to be located within one mile of the access road. This road's primary use is to enter Lake Mead National Recreation Area and over 300,000 visitors enter the park at this entrance each year. We maintain this provides ample reason to protect the scenic nature of this drive. The BLM does not have to have state scenic road designation to protect this view.

Visual resources are analyzed for visual impacts whether or not there are presence of scenic vistas or state-designated scenic highways. All BLM administered surface acres are subject to the BLM's Visual Resource Management policy which calls for all BLM administered surface acres to be inventoried for visual values and Visual Resource Management (VRM) Classes be designated within the Resource Management Plan (RMP) establishing visual management objectives. The Cottonwood Cove Access Road is identified as a KOP and analysis performed to determine the project's conformance to the VRM Class objectives designated within the RMP.

Page 3-84, Lines 10-12. The document states, "*Lake Mead National Recreation Area is located east of the Proposed Project area. The Recreation Area boundary is approximately 11,000 feet from the nearest WTG. Lake Mohave and the associated lakeside camping areas are located approximately 7.5 miles from the nearest WTG*"." While this statement is generally accurate, there are additional noise sensitive receivers within Lake Mead National Recreation Area. Specifically, the Nellis Wash Wilderness is located within the two-mile radius from Wind Turbine Generators as illustrated on Figure 3.10-1. The National Park Service is to manage wilderness to protect the wilderness character as defined in the Wilderness Act of 1964. Wilderness character includes untrammeled; undeveloped, natural, outstanding opportunities for solitude or primitive unconfined recreation or unique attributes or other features that reflect the character of this wilderness. Dispersed camping is a common use of wilderness and should be included in the description of Lake Mead National Recreation Area and specifically, the Nellis Wash Wilderness. We recommend this information be included in the Chapter 3 description of the area. We also recommend it be repeated or referenced under the recreation heading currently beginning on page 3-88 and illustrated in Figure 3.11-1 Recreation Opportunity Spectrum Designations.

Sections 3.10-Noise, and 3.11-Recreation have been updated to include that the Nellis Wilderness Wash is located approximately 2-miles from the nearest turbine.

Page 3-86, Lines 1-2. The statement that "*Notably, the NPS did not include sound level data measured during high wind conditions, and as such, the ambient data presented reflect very conservative levels, including times....*" does not adequately clarify the accepted convention for avoiding measurement when accurate environmental sound levels are extraordinarily difficult to measure. NPS respectfully requests that it be changed to read "Notably, the NPS did not include sound level data measured when wind speeds near the microphone exceeded 5 m/s (11 mph), in compliance with national standard ANSI 12.18 Section 4.4.1.1. As such, the ambient data presented reflect conservative levels, including times...."

Section 3.10.2.4-Ambient Sound in the Project Area Vicinity has been changed as requested.

Page 4-26, Lines 35-44. The conclusions made in Lines 39-42 regarding the Barber et al. 2009 article are inaccurate. One of the co-authors of the Barber et al. 2009 article works in the NPS Natural Sounds and Night Skies Division and does not believe that the claims made in this sentence are supported by their article. Wind turbine noise has been shown to substantially alter antipredator behavior in ground squirrels due to masking (Rabin et al. 2006). Those squirrels spent much more time scanning their environment visually in a noisier environment, which meant less time for foraging and other activities. They also reacted much more vigorously to any perceived threat, and took much longer to recover and resume normal behavior after their threat responses. We would appreciate if this sentence was removed from the document.

Overall, we would greatly appreciate if the discussion on potential noise impacts to wildlife is expanded. We understand that there are no current quantitative thresholds or standards on wildlife, but there are several sources of literature documenting noise impacts to wildlife that should be discussed. Lines 37-39 make it appear as though the research on noise impacts to wildlife is undeveloped or unavailable, which is incorrect. Research is not needed to investigate whether noise impacts wildlife, but to identify quantitative thresholds of impact. The most extensive data regarding noise impacts comes from the road ecology literature. Additionally, three studies of noise from energy development (Bayne et al. 2008; Habib et al. 2007; Francis et al. 2009) that controlled for other disturbance factors have documented significant noise effects at the level of species demography and community diversity. The similarities of road and energy development noise spectra to wind turbine spectra offer a

Lines were removed as requested. Section 4.4.4-Wildlife has been updated with a discussion of potential noise impacts to wildlife using provided literature.

solid basis for generalizing the impacts observed in these studies to wind energy scenarios. In addition to this broad, comparative framework to evaluate wind turbine noise impacts, we have a specific study that documented substantial changes in ground squirrel antipredator behavior due to wind turbine noise (Rabin et al. 2006). In addition to these studies, we provide a summary of other literature below.

"The peer reviewed literature widely documents that sound plays a critical role in intra-species communication, courtship, predation and predator avoidance, and effective use of habitat. Additionally, similar studies have shown that wildlife can be adversely affected by sounds and sound characteristics that intrude on their habitats. While the severity of the impacts varies depending on the species being studied and other conditions, research strongly supports the fact that wildlife can suffer adverse behavioral and physiological changes from intrusive sounds (noise) and other human disturbances. Documented responses of wildlife to noise include increased heart rate, startle responses, flight, disruption of behavior, and separation of mothers and young (Selye 1956, Clough 1982, National Park Service 1994, US Department of Agriculture 1992, Anderssen et al. 1993).

When noise elevates ambient sound levels, signals that might otherwise have been detected and recognized are missed. The noise is said to mask these signals. Masking degrades an animal's auditory awareness of its environment, and fundamentally alters interactions among predators and prey. There are many animal species that rely almost exclusively on sounds to locate their prey (e.g., gleaning bats). Masking also affects acoustical communication. Animals have been shown to alter their calling behavior and shift their vocalizations in response to noise (Brumm and Slabbekoorn 2005; Patricelli and Blickley 2006; Slabbekoorn and Ripmeester 2008; Warren *et al.* 2006). These shifts have been documented in a variety of signal types: begging calls of bird chicks (Leonard and Horn 2007), alarm signals in ground squirrels (Rabin et al. 2006), echolocation cries of bats (Gilman and McCracken 2007) and sexual communication signals in birds and anurans (Brumm and Slabbekoorn 2005, Patricelli and Blickley 2006, Warren et al. 2006, Slabbekoorn and Ripmeester 2007, Parris et al. 2009). Vocal adjustment likely comes at a cost to both energy balance and information transfer; however, no study has addressed receivers. Some species are unable to adjust the structure of their sounds to cope with noise even within the same group of organisms (Lengagne 2008)."

Anderssen, S.H., Nicolaisen, R.B., and Gabrielsen, G.W. 1993. Autonomic response to auditory stimulation. *Acta Paediatrica* 82:913-918.

Brumm, H. and Slabbekoorn, H. (2005) Acoustic communication in noise. Adv. Stud. Behav. 35, 151–209.

Clough, G. 1982. Environmental Effects on Animals Used in Biomedical Research. *Biological Reviews* 57:487-523.

Gillam, E.H. and McCracken, G.F. (2007) Variability in the echolocation of Tadarida brasiliensis: effects of geography and local acoustic environment. Anim. Behav. 74, 277–286

Lengagne, T. (2008) Traffic noise affects communication behaviour in a breeding anuran, Hyla arborea. Biol. Conserv 141, 2023–2031

Leonard, M.L. and Horn, A.G. (2008) Does ambient noise affect growth and begging call structure in nestling birds? Behav. Ecol. 19, 502–507

National Park Service. 1994. *Report to Congress, Report on Effects of Aircraft Overflights on the National Park System.* September 12, 1994.

Parris, K.M. et al. (2009) Frogs call at a higher pitch in traffic noise. Ecol. Soc. 14, 25 In: http://www.ecologyandsociety.org/vol14/iss1/art25

Patricelli, G.L. and Blickley, J.L. (2006) Avian communication in urban noise: causes and consequences of vocal adjustment. Auk 123, 639–649.

Selye, H. 1956. *The Stress of Life*. New York: McGraw-Hill.

Slabbekoorn, H. and Ripmeester, E.A. (2008) Birdsong and anthropogenic noise: implications and applications for conservation. Mol. Ecol. 17, 72–83.

US Department of Agriculture, Forest Service. 1992. Report to Congress. *Potential Impacts of Aircraft Overflights of National Forest System Wildernesses.*

Warren, P.S. et al. (2006) Urban bioacoustics: it's not just noise. Anim. Behav. 71, 491–502.

Weisenberger, M. E., et al. 1996. Effects of Simulated Jet Aircraft Noise on Heart Rate and Behavior of Desert Ungulates. *J. Wildlife Management* 60(1):52-61.

Page 4-65, Lines 2-3. The document states, *"Figure 4.9-2 represents the view that recreational viewers who are boating/fishing on Lake Mohave would have looking east toward the Proposed Project."* The sentence should state the view is to the west from Lake Mohave.

Text has been corrected under KOP 6 – View Across Lake Mohave.

Page 4-65, Lines 6-10. The documents states, *"The viewshed analysis demonstrates that the easternmost portion of the project area maybe visible from KOP 6 and portions of up to 50 proposed WTGs could be seen. A viewer might be able to discern the smooth white cylindrical base of the WTG against the brown and green medium-textured background. However, due to the distance, terrain, and atmospheric conditions, contrasts in texture would be weak. The WTGs would introduce moving, vertical, angular structures against the rugged mountains background resulting in a moderate contrast in form, line and color.* We expect the impact will be greater than what is being described. The view of the landscape will be changed from a view dominated by natural features to a view dominated by the hand of man. With portions of up to 50 WTGs visible from the surface of Lake Mohave, the contrast will be much greater than "weak" and "moderate" in form, line and color. We suggest the analysis be revised to reflect a higher level of contrast.

Visual resources specialists in accordance with BLM Visual Resources Management methodology determined contrast ratings.

Page 4-75 Lines 1-7. The document states, *"Recreational visitors from KOP 15, Cottonwood Cove Access Road, would have a high level of visibility to the Proposed Action (Figure 4.9-7). Viewers at this location would be approximately 0.3 miles west of the project area. Although some natural screening exists, approximately 7 WTGs would be in the foreground. The WTGs would contribute to the vertical lines in relation to the rugged terrain. Visual contrast in line, color, and form are anticipated moderate with the 96 WTG Layout Alternative."* We contend the contrast is underestimated. With WTGs as close at 0.3 miles and over 400-feet tall, the WTGs are going to dominate the view from the primary access road to Lake Mead National Recreation Area. The area's natural features are going to masked by the large and moving WTGs. We question that such a high level of contrast is consistent with BLM VRM Class III standards.

Visual resources specialists per BLM Visual Resources Management methodology determined contrast ratings.

Page 4-77. Though anti-collision lighting is less likely to contribute to sky glow, the flashing nature of lights can impact the natural lightscape (the human perception of natural nighttime environment) as does a shiny reflection in the daytime. The dark-adapted human eye is more sensitive to flashing lights in peripheral vision than during the day. Additionally, nighttime obstruction lighting can, under certain circumstances, disorient migrating birds. (http://www.sfbayjv.org/pdfs/night%20migrant%20fatalities%20at%20wind%20turbines.pdf). We would appreciate the revision of this paragraph to acknowledge that red lights, while not contributing to skyglow, may impact nighttime viewshed via visual distraction and glare at close range.

Section 4.9 Visual Resources Impacts under Dark Skies has been revised per this suggestion.

Page 4-77, Lines 1-9. The document states, *"Recreational viewers from KOP 17, Cottonwood Cove Access Road, would have a high level of visibility to Western's proposed switching station (simulation currently under development). Viewers at this location would be directly adjacent to the switching station, which represent a foreground view. The switching station would introduce another manmade structure into the foreground, although several structures, including a propane tank, parking area, overhead transmission lines, lights, and the park entrance station, already exist in the area. Because manmade structures exist in the area, including the NPS Fee Station, Cottonwood Cove Road, and various radio and cell towers, the switching station would cause a weak to moderate contrast in form, texture and color."*

Visual resources specialists per BLM Visual Resources Management guidance determined contrast ratings. A visual simulation for the proposed Western Switching Station has been included in the FEIS (Figure 4.9-8. KOP-17 – View from Cottonwood Cove Access Road at MP 4 Looking North). Text has been updated to state that for this KOP a moderate contrast rating, which is still consistent with a Class III Visual Resources Management Area.

We strongly disagree with this statement and finding. The view of the switching station will be large measuring over 6 acres (described on page 2-31). *"Facilities would include a control building, microwave tower, take-off structures and other steel support structures, buswork, and electrical and control equipment for switching, protection, metering, safety, and O&M purposes. The switching station would occupy approximately 3.5 acres, with an additional 2.5 acres outside the security fence required for site preparation, drainage, and road access. An 8-foot tall chain-link fence topped with razor wire would provide security for the switching station. Adequate space would be provided inside the fence to maneuver construction and maintenance vehicles. Additionally, the facility would be sized to accommodate additional bays for future interconnections"*. While it is not described in this section, some of the steel structures will extend 30 to 40 feet in height and the microwave tower is proposed to be 100 feet in height. This switching facility will dominate the view as one drives down the Cottonwood Cove Access Road. The document does not accurately describe the magnitude of this facility and should be revised to better describe the impact it will have on the park visitor using this road to access Lake

Mead National Recreation Area. It is the position of the National Park Service that this facility is not compatible in close proximity to the existing entrance station and the entrance to Lake Mead National Recreation Area.

Page 4-77, Line 10. Red colored anti-collision lights are preferred. The intensity should fall between 1500 and 2500 candela. Flash duration length should be a short as allowed by FAA, and flash interval should be as long as allowed by FAA. We would appreciate if the document was revised to include upper and lower range of red beacon intensity and appropriate flash characteristics. Please include this in MM-VIS5.

FAA would determine flash duration and intensity.

Page 4-77, Line 17. Under the Mitigation section for visual impacts there is no discussion of the steps that will be taken to lighten the visual impact of the switching station. There were discussions during the ADEIS of replacing the proposed chain link fence with a concrete block wall and painting the wall to blend with the setting. The elevation of the switching station could be lowered some to reduce the height of the steel structures. None of these measures are presented in this chapter. We recommend the mitigation measures be outlined to reduce the impact of the switching station on the visual setting.

Section 4.9.4-Mitigation Measures lists mitigation measures that would be applicable to both the wind facility and the proposed switching station.

Page 4-79, Lines 19-20. The NPS notes and appreciates that the DEIS introduces and offers impact assessments in comparison to the 35 dBA nighttime limit proposed by Lake Mead National Recreation Area for park lands. The addition addresses previous ADEIS comments on appropriate management thresholds proposed by NPS to protect park visitors and overnight camping that could occur on LMNRA lands. Pedersen and Waye (2004) have shown that with wind turbine noise around 35 dBA, the percentage of highly annoyed persons increases above 5%, and the percentage of annoyed persons increases above 10% (Pedersen et al. 2009). Pedersen and Nielsen (1996) recommended a minimum distance to neighbors so that the wind turbine noise would be below 33–38 dB. The NPS has used the 35 dBA metric to identify substantial levels of exposure above natural ambient sound (ongoing Grand Canyon overflights analysis, Zion Soundscape Management Plan). Other example standards and guidelines that support this threshold include:

a. Oregon Administrative Rules (OAR) 340-035-0035 Noise Control Regulations for Industry and Commerce - Wind turbine development cannot exceed an L50 of 36 dBA at an appropriate measurement point on a noise sensitive property (background ambient sound level is assumed to be 26 dBA in this case)
b. Technical Guidelines on Noise Control (Technische Anleitung zum Schutz gegen Lärm - TA Lärm, Germany) - Emission limit (applied to wind turbines) in rural "reinen Wohngebieten" (residential-only) areas is 35 dBA from 10:00 PM to 6:00 AM
c. New Zealand Standards (NZS) 6808:2010 Acoustics – Wind farm noise – This standard contains provisions for quiet (high amenity) locations, and recommends that the sound from a wind farm in such locations during the evening and night–time not exceed the background sound level by more than 5dB(A) or a level of 35dB(A) L90 (10min) whichever is the greater.

Comment noted.

d. South Australia EPA Noise Guidelines for Wind Farms (July 2009) - The predicted equivalent noise level (LAeq, 10min), adjusted for tonality, should not exceed 35 dBA in 'rural living' zones (intended to have a relatively quiet amenity), or the background noise level by more than 5 dBA, whichever is greater.

e. Buller från vindkraft—Riktvärden för ljud från vindkraft (Noise from Wind Turbines—Recommended Limits For Sound From Wind Turbines), Naturvårdsverket (Stockholm, 2009) Sweden - Wind turbine noise is limited to 35 dBA in quiet (low background) areas.

f. Ekstern støj fra virksomheder(External Ind. Noise), Vejledning nr. 5 (Danish Environmental Protection Agency, 1984); Bekendtgørelse om støj fra vindmøller (Statutory Order on Noise from Wind Turbines), Bekendtgørelse nr. 1518 af 14, December 2006 (Danish Ministry of the Environment, 2006) - The evening/nighttime/weekend limit for industrial noise is 35 dBA in recreational areas. Wind turbine noise, specifically, is limited to 39 dBA (wind speed 8 m/s at 10m height) and 37 dBA (wind speed 6 m/s at 10m height) for noise sensitive areas, such as recreation.

g. ETSU-R-97 report "The Assessment and Rating of Noise from Wind Farms" contains several relevant recommendations (United Kingdom) - Noise from wind farms should be limited to 5dB(A) above background for both day-time and night-time (with the exception of the lower limits and simplified method described below). In low noise environments the day-time level of the LA90, 10min of the wind farm noise should be limited to an absolute level within the range of 35-40 dB(A).

Pedersen, E. and K. P. Waye, "Perception and annoyance due to wind turbine noise—A dose-response relationship," J. Acoust. Soc. Am. 116(6), 3460–3470 (2004).
Pedersen, E, F. van den Berg, R. Bakker, and J. Bouma, "Response to noise from modern wind frams in The Netherlands," J. Acoust. Soc. Am. 126(2), 634–643 (2009).
Pedersen, T. H. and K. S. Nielsen, "Genevirkning af støj fra vindmøller," (Annoyance noise from wind turbines), Report 150, Delta Akustik & Vib., 1996.

Page 4-79, Line 39. For facility lighting, additional impact reductions can be made by avoiding bluish lighting and using warm white or amber lighting for general security and human vision needs. Facility lighting should be less than Kelvin color temperature (warm white or amber in color).

MM-VIS-5 in Section 4.9.4-Mitigation Measures has been updated to incorporate these suggestions, as appropriate.

Page 4-79, Line 93. For large wind farms, OCAS or other aircraft-detection systems can improve safety and reduce light pollution impacts. NPS would appreciate if this was included as an alternative being investigated for mitigation.

The Federal Aviation Administration is assessing the suitability of Audio Visual Warning System applications to wind energy development. The BLM is unable to require mitigation treatments not yet approved by the air flight safety regulatory authority.

Page 4-81, Lines 16-17. In this sentence it says "*should construction activities occur at night…*" It was our understanding from the mitigation measures that construction activities would only be

This statement has been removed from Section 4.10-Noise Impacts.

conducted during the daytime hours (please see comment #1 for concerns with current daytime hours). We would appreciate if this was clarified in the document.

Page 4-82, Line 8. If the statement "expected to result in a minimal rise in transportation noise levels" was intended to apply to the US-95 corridor only, NPS respectfully requests this statement be clarified to read "expected to result in a minimal rise in US-95 transportation noise levels" so the statement is not misinterpreted to apply to all side roads that might be used by construction personnel and deliveries.

Section 4.10-Noise Impacts has been clarified as requested.

Page 4-82, Lines 27-33. The document describes land use and landscape designations that might be sensitive to noise and noise impacts, such as recreation. However, it does not identify the Nellis Wash Wilderness. This wilderness is located well within the noise contours illustrated for the 87 WTG layout on Figure 4.10-2. We request the Nellis Wash Wilderness be identified as a noise sensitive receptor in this analysis.

Page 4-83, Lines 33-34. The distance between the proposed interconnect facility and the LMNRA boundary appears to be approximately 8,000 feet, less than the maximum distance which is claimed to create potential disturbances for residential receptors. NPS respectfully requests that the Final EIS disclose an estimated A-weighted sound level at the LMNRA boundary due to any low-frequency transformer hum that may result from the interconnect facility.

Refer to Figure 4.10-1. Noise Contours for the 96 WTG Layout Alternative and Figure 4.10-2. Noise Contours for the 87 WTG Layout Alternative for the illustration of sound levels in the LMNRA. These figures have been updated to illustrate the Nellis Wilderness Wash. Refer to Section 4.10.1-Indicators and Methodology and Section 4.10.2-Direct and Indirect Effects by Alternative for a discussion of noise modeling methodology and noise impacts.

Page 4-83, Lines 44-45. The DEIS appropriately discloses the potential for power line corona noise near the Western's proposed switching station. It is understood that the amount of corona noise may vary considerably. If appropriate, NPS respectfully requests the Final EIS disclose an estimated corona noise level and increase in corona noise within the LMNRA due to the proposed Wind Turbine Generator alternatives. The estimates should be based, to the extent possible, on standard conditions expected for the Western Area Power Administration lines and a typical distance between power lines and the right-of-way edge within LMNRA.

Discussion of corona noise added to Section 4.10-Noise Impacts.

Page 4-95, Lines 9-19. The impact of the 87 turbine layout is described on recreation in this paragraph. There is no mention of the Nellis Wash Wilderness. As a Federal land manager, we are charged with the protection the wilderness character of this Wilderness. This includes the characteristics of wilderness as defined in the Wilderness Act of 1964; "untrammeled; undeveloped, natural, outstanding opportunities for solitude or primitive unconfined recreation or unique attributes or other features that reflect the character of this wilderness". While the activity is occurring outside of wilderness and there are no physical impacts on the wilderness, but there may be impacts on the wilderness character. Natural sounds are integral to the wilderness character of an area, and decisions that compromise this character are in conflict with the Wilderness Act. The BLM has previously stated that no impacts are anticipated to the Nellis Wash Wilderness. Given the proximity of the turbines to the wilderness area, the NPS has concerns with the accuracy of this statement.

Refer to Figure 4.10-1. Noise Contours for the 96 WTG Layout Alternative and Figure 4.10-2. Noise Contours for the 87 WTG Layout Alternative for the illustration of sound levels in the LMNRA. These figures have been updated to illustrate the Nellis Wilderness Wash. Refer to Section 4.10.1-Indicators and Methodology and Section 4.10.2-Direct and Indirect Effects by Alternative for a discussion of noise modeling methodology and noise impacts.

The NPS would appreciate if the BLM added a post-installation strategy that requires the applicant to be responsible for sound monitoring within LMNRA, as well as corrective action in the event that acceptable levels are exceeded. This monitoring effort would ensure that actual

Comment noted. This will be considered in the development of the ROW grant.

noise levels are not exceeding the 35 dBA nighttime standard and are not causing impacts to park resources (including wildlife) and visitor experience. Since the monitoring would occur in LMNRA boundaries, we recommend use of NPS Acoustical Sampling and Analysis Guide," available at http://science.nature.nps.gov/im/monitor/VitalSigns/BrowseProtocol.aspx. If through monitoring the applicant determines that noise levels are higher than predicted or there are impacts to park resources, the applicant should be responsible for implementing further mitigation measures.

We appreciate the opportunity to share these comments and should you have questions or require addition information, please contact Park Planner, Jim Holland at (702) 293-8986.

Sincerely,

for William K. Dickinson
Superintendent

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130
Ph: (702) 515-5230 ~ Fax: (702) 515-5231

April 16, 2012
File Nos. 84320-2010-CPA-0019
84320-2011-TA-0152

Memorandum

To: Field Manager, Las Vegas Field Office, Bureau of Land Management, Las Vegas, Nevada

From: State Supervisor, Nevada Fish and Wildlife Office, Reno, Nevada

Subject: Comments on Searchlight Wind Energy Draft Environmental Impact Statement

Thank you for the opportunity to comment on the draft environmental impact statement (DEIS) for the construction, operation and maintenance, and decommissioning of a wind energy facility and associated infrastructure in Clark County, Nevada. We prepared this letter under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 4347), Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. 703 *et seq.*), the Endangered Species Act of 1973 [16 U.S.C. 1531 *et seq.*; 87 Stat. 884], as amended (Act), and other authorities mandating the Fish and Wildlife Service's (Service) concern for environmental values.

We understand the Bureau of Land Management (BLM) proposes to grant a right-of-way (ROW) on public land to Searchlight Wind Energy, LLC, a wholly-owned subsidiary of Duke Energy, to develop a 200-megawatt wind energy generation project. In addition, BLM proposes to grant a ROW to Western Area Power Administration (Western) to construct, operate, and maintain a new switching station to interconnect the Searchlight Wind Energy Project with Western's Davis-Mead 230-kilovolt transmission line.

BLM's preferred project alternative is comprised of 87 wind turbine generators, new and upgraded project roads and crane pads, an operations and maintenance facility, equipment storage and construction laydown areas, an overhead transmission line, substations, a batch plant, and meteorological towers. Total surface disturbance is approximately 230 acres located within an area that is approximately 29 square miles, 60 miles southeast of Las Vegas, Nevada, and 40 miles north of Laughlin, Nevada.

We are concerned this project may adversely affect the Mojave desert tortoise (*Gopherus agassizii*) (tortoise), a species listed as threatened under the Act. The direct and interrelated impacts resulting from the BLM-preferred alternative to the tortoise are described in the DEIS and include disturbance of approximately 230 acres of tortoise habitat: 152 acres of permanently removed habitat, and 78 acres of temporary disturbance; death and injury to tortoises from various construction, trenching, and ground-disturbing activities; disturbance of normal tortoise activity patterns from construction noise and vibration; and risk of predation from a potential increase in numbers of common ravens and other raptors attracted to the area. The DEIS outlines applicant-committed mitigation measures to minimize these effects. However, we are concerned that indirect effects due to fragmentation and degradation of desert habitat are potentially large since the project occurs within an area of 29 square miles and are not adequately addressed in the DEIS. The potentially long-term effects resulting from the degradation and fragmentation of habitat may contribute to the loss of individuals from local breeding populations; create movement barriers; negatively affect the connectivity of wildlife populations; and increase the spread and presence of weeds thereby altering or increasing fire regime cycles. In order to strengthen the EIS analysis, we recommend a more in-depth discussion of these indirect and potentially long-term effects the project would have on tortoises.

Section 4.4.5.2 Desert Tortoise – Direct and Indirect Impacts by Alternatives has been updated to include a more in-depth discussion of indirect and potentially long-term effects on tortoises.

We are concerned about the effects of the project to avian and bat species, including golden eagles (*Aquila chrysaetos*), a species protected by the MBTA and Bald and Golden Eagle Protection Act. Many of the direct effects to birds and bats are similar to those of the desert tortoise and are described in the DEIS and include the removal of avian nesting habitat; the risk of injury and death to birds and bats, as well as the destruction of avian nests resulting from ground-disturbing activities. Many of the bird species detected during surveys use the habitat in the project area for nesting, and roosting bat habitat is located in and around the area. Although no golden eagle nests occur within the project area, several nests are present in adjacent areas. The habitat within the project area may be used by foraging or migrating golden eagles as well as other avian and bat species. Knowledge about the potential for bird and bat mortalities resulting from collisions with wind turbine generators is well established in the literature. The DEIS stated the project may attract additional ravens and raptors to the area, which increases the potential mortality risk to these species from the wind turbine generators. We are concerned about the mortality and injury risk from wind turbine generators to all birds and bats. Therefore, we strongly encourage BLM to develop a robust bird and bat conservation strategy that outlines monitoring and minimization measures to offset project effects and provide options should initial mitigation measures prove ineffective.

Refer to Section 5.2.3-Coordination on the BBCS and Appendix B-4: Bird and Bat Conservation Strategy (formerly referred to as the Avian and Bat Protection Plan [ABPP]), which have been added to the EIS.

Comment noted.

We are concerned about the number of new and upgraded roads needed for the project. The increased number of roads would increase fragmentation and degradation of habitat, provide opportunities for higher levels of use in the area by recreationists, increase dust produced by traffic, and provide an increase risk of vehicular collisions with wildlife using the area. In addition, we are concerned with the widening of roads through mature Joshua tree forest. Estimates from literature age mature Joshua trees (*Yucca brevifolia)* to be between 800 and 1,000 years old. We recommend incorporating into the project's travel management plan a requirement for workers to carpool to reduce the number of vehicles utilizing project roads. This will help minimize impacts to air quality

by reducing dust produced by traffic; and wildlife, including the tortoise and bird and bat species using the project area by minimizing the risk of death and injury from collisions with vehicles. We also recommend that BLM minimize the number of new and upgraded roads for this project and BLM only support the use of access routes that avoid the mature Joshua tree forest.

We are concerned about the effects from evaporation ponds and soil surface binding products to wildlife, including the tortoise, birds, and bats. Although the DEIS mentions evaporation ponds, there is no description of the number, location, or size in the DEIS. Also, the DEIS includes a measure to use a product to bind soil particles to prevent dust, but no analysis of their effects to wildlife was made. Therefore, we recommend BLM disclose possible impacts to wildlife from evaporation ponds and application of a soil binding product and include mitigation measures to avoid or offset any impacts to wildlife in the EIS.

We encourage BLM and the project applicant develop robust monitoring and mitigation plans within an adaptive management framework to assess long-term project impacts on all wildlife species, especially the desert tortoise, birds, and bats. Monitoring methods should be developed to evaluate the effectiveness of mitigation measures to minimize impacts to birds and bats. Thresholds and triggers to adapt ineffective measures should be proposed and implemented during the construction and operation of the project. These plans should include effective monitoring strategies to evaluate the effectiveness of minimization measures; determine if tortoise, avian, and bat mortalities are within levels expected based on pre-construction surveys; and assess impacts of the project on all aspects of desert tortoise biology, including breeding and wintering behavior and movement patterns.

In summary, we recommend BLM provide a more thorough analysis of effects, including long-term and indirect effects, of the project to wildlife species, especially to tortoises, birds, and bats in the EIS. The analysis should disclose project impacts to species and include measures to avoid, minimize or mitigate impacts in an adaptive management framework. Furthermore, we recommend that BLM consider environmental impacts of each alternative and select the alternative least damaging to fish and wildlife resources as the preferred alternative in the EIS. Although we do agree with BLM's selection of the preferred alternative as it is the option with the least impacts to resources, we ask that BLM address our concerns as stated above.

We appreciate the opportunity to comment on the DEIS for the Searchlight Wind Energy Project in Clark County, Nevada. If you have any questions regarding our comments, please contact Susan Cooper in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230

Jeff Krueger

For Edward D. Koch

Section 4.4.4.2- Direct and Indirect Impacts by Alternative has been updated to disclose potential impacts of the artificial ponds on general wildlife. No soil surface binding products would be utilized per BLM policy. The number of ponds required has not been determined; however, ponds would be within the temporary staging and laydown areas. Searchlight Wind LLC will obtain all required permits for artificial ponds from NDOW and NDEP, as applicable.

Refer to Section 5.2.3-Coordination on the BBCS, Appendix B-4: Bird and Bat Conservation Strategy (formerly referred to as the Avian and Bat Protection Plan [ABPP]), and Appendix B-3: Terrestrial Wildlife Plan, which have been added to the EIS

Section 4.4.5.2 Desert Tortoise – Direct and Indirect Impacts by Alternatives, Section 4.4.5.8-Bats - Direct and Indirect Effects by Alternative, 4.4.5.11-Migratory Birds - Direct and Indirect Effects by Alternative, and Appendix B-4: Bird and Bat Conservation Strategy have been updated to address these concerns.

BLM has chosen the 87-WTG Alternative based as the alternative with the least impacts.

State Agency

Skip Canfield

From: Alex Lanza
Sent: Tuesday, January 31, 2012 2:58 PM
To: Skip Canfield
Cc: Cliff Lawson
Subject: RE: Nevada State Clearinghouse Notice E2012-117 - Proposed Wind Energy Project near Searchlight

Good afternoon Skip;

The Nevada Division of Environmental Protection (NDEP) - Bureau of Water Pollution Cont (BWPC) - does not have any comments regarding Notice for SAI: **E2012-117 - Proposed Wind Energy Project near Searchlight, Nevada.**

Please note that **Western Area Power Administration,** who manages this **Wind Energy Project,** may be subject to BWPC permitting for some of its discharges from the buildings associated with the energy production – domestic sewage for example.

Thank you for the information and the opportunity to comment.

If you have any questions, please contact me at (775) 687-9468.

Respectfully,

Alexi Lanza

Alexi Lanza, P.E.
Permits Branch - Bureau of Water Pollution Control
Nevada Division of Environmental Protection
901 S. Stewart St., Ste 4001
Carson City NV 89701

Phone: 775.687.9468 - Fax: 775.687.4684
www.ndep.nv.gov

Please visit BWPC's main website: http://ndep.nv.gov/bwpc/index.htm

Please join our electronic mailing lists: http://ndep.nv.gov/bwpc/email.htm

From: scanfield@lands.nv.gov [mailto:scanfield@lands.nv.gov]
Sent: Monday, January 30, 2012 10:28 AM
To: Alan Coyner; Alan Jenne; Alisanne Maffei; Nevada State Clearinghouse; clytle@lincolnnv.com; csteverson@ndow.org; Brad Hardenbrook; Doug Driesner; David Catalano; ddavis@unr.edu; dmouat@dri.edu; Edward Foster; ed.rybold@navy.mil; gderks@dps.state.nv.us; James Morefield; Jason Woodruff; Jennifer Newmark; Jennifer Scanland; munteanj@unr.edu; jprice@unr.edu; kirk.bausman@us.army.mil; cohnl@nv.doe.gov; Lowell Price; Mark Freese; Mark Harris; Mike Dondero; deborah.macneill@nellis.af.mil; escomm2@citlink.net; Octavious.Hill@nellis.af.mil; Pete Anderson; Pete Konesky; Rebecca Palmer; Rich Harvey; Robert K. Martinez; Sandy Quilici; Sherry Rupert; Skip Canfield; Steven Siegel; tcompton@dot.state.nv.us; Terry Rubald; Richard Ewell; tmueller@dot.state.nv.us; Tod.oppenborn@nellis.af.mil; William.C adwallader@nellis.af.mil; zip.upham@navy.mil; Joe Strolin; Tim Rubald; Alex Lanza; Dave Marlow; Kevin J. Hill; djohnston@dps.state.nv.us; John Walker; Karen Beckley; Russ Land
Cc: Searchlight_Wind_Energy_EIS@blm.gov
Subject: Nevada State Clearinghouse Notice E2012-117

NEVADA STATE CLEARINGHOUSE
Department of Conservation and Natural Resources, Division of State Lands
901 S. Stewart St., Ste. 5003, Carson City, Nevada 89701-5246
(775) 684-2723 Fax (775) 684-2721

TRANSMISSION DATE: 01/30/2012

U.S. Bureau of Land Management

Nevada State Clearinghouse Notice E2012-117

Project: Proposed Wind Energy Project near Searchlight

Follow the link below to find information concerning the above-mentioned project for your review and comment.
E2012-117 - http://www.blm.gov/nv/st/en/info/newsroom/2012/january/southern_nevada_blm.html

- **Please evaluate this project's effects on your agency's plans and programs and any other issues**

that you are aware of that might be pertinent to applicable laws and regulations.

- **Please reply directly from this e-mail and attach your comments.**
- **Please submit your comments no later than Tuesday March 13th, 2012.**

Clearinghouse project archive

Questions? Skip Canfield, Program Manager, (775) 684-2723 or clearinghouse@state.nv.us

____No comment on this project ____Proposal supported as written

AGENCY COMMENTS:

Signature:

Date:

Requested By:
Searchlight_Wind_Energy_EIS

Distribution:
- Division of Emergency Management
Alan Coyner - Commission on Minerals
Alan Jenne - Department of Wildlife, Elko
Alex Lanza -
Alisanne Maffei - Department of Administration
Clearinghouse - zzClearinghouse
Cory Lytle - Lincoln County
Craig Stevenson - Department of Wildlife, Las Vegas
D. Bradford Hardenbrook - Department of Wildlife, Las Vegas
D. Driesner - Commission on Minerals
Dave Marlow -
David Catalano - Department of Wildlife, Fallon
David David - UNR Bureau of Mines
David Mouat - Desert Research Institute
Denesa Johnston - Fire Marshal

Ed Foster - Department of Agriculture
Ed Rybold - NAS Fallon
Gary Derks - Division of Emergency Management
James D. Morefield - Natural Heritage Program
Jason Woodruff - Public Utilities Commission
Jennifer Newmark -
Jennifer Scanland - Division of State Parks
John Muntean - UNR Bureau of Mines
John Walker - Nevada Division of Environmental Protection
Jon Price - UNR Bureau of Mines
Joseph C. Strolin - Agency for Nuclear Projects
Karen Beckley - State Health Division
Kevin Hill -
Kirk Bausman - Hawthorne Army Depot
Linda Cohn - National Nuclear Security Administration
Lowell Price - Commission on Minerals
Mark Freese - Department of Wildlife
Mark Harris, PE - Public Utilities Commission
Mike Dondero - Division of Forestry
Ms. Deborah MacNeill - Nellis Air Force Base
Nancy Boland - Esmeralda County
Octavious Q. Hill - Nellis Air Force Base
Pete Anderson - Division of Forestry
Pete Konesky - State Energy Office
Rebecca Palmer - State Historic Preservation Office
Rich Harvey - Division of Forestry
Robert Martinez - Division of Water Resources
Russ Land - Nevada Division of Environmental Protection
Sandy Quilici - Department of Conservation & Natural Resources
Sherry Rupert - Indian Commission
Skip Canfield, AICP - Division of State Lands
Steve Siegel - Department of Wildlife, Director's Office
Terri Compton - Department of Transportation
Terry Rubald - Nevada Department of Taxation, Local Government, Centrally Assessed Property
Tim Rubald - Conservation Districts
Timothy Mueller - Department of Transportation
Tod Oppenborn - Nellis Air Force Base
William Cadwallader - Nellis Air Force Base
Zip Upham - NAS Fallon

Skip Canfield

From: Rebecca Palmer
Sent: Tuesday, March 06, 2012 1:50 PM
To: Skip Canfield
Subject: RE: Nevada State Clearinghouse Notice E2012-117

The SHPO supports this document as written and does not recommend any changes. Thanks.

Comment noted.

Rebecca Lynn Palmer
Deputy Historic Preservation Officer
901 South Stewart Street, Suite 5004
Carson City NV 89701
Phone (775) 684-3443
Fax (775) 684-3442

Please note, my email is rlpalmer@shpo.nv.gov

From: scanfield@lands.nv.gov [mailto:scanfield@lands.nv.gov]
Sent: Monday, January 30, 2012 10:28 AM
To: Alan Coyner; Alan Jenne; Alisanne Maffei; Nevada State Clearinghouse; clytle@lincolnnv.com; cstevenson@ndow.org Brad Hardenbrook; Doug Driesner; David Catalano; ddavis@unr.edu; dmouat@dri.edu; Edward Foster; ed.rybold@navy.mil; gderks@dps.state.nv.us; James Morefield; Jason Woodruff; Jennifer Newmark; Jennifer Scanland; munteanj@unr.edu; jprice@unr.edu; kirk.bausman@us.army.mil; cohnl@nv.doe.gov; Lowell Price; Mark Freese; Mark Harris; Mike Dondero; deborah.macneill@nellis.af.mil; escomm2@citlink.net; Octavious.Hill@nellis.af.mil; Pete Anderson; Pete Konesky; Rebecca Palmer; Rich Harvey; Robert K. Martinez; Sandy Quilici; Sherry Rupert; Skip Canfield; Steven Siegel; tcompton@dot.state.nv.us; Terry Rubald; Richard Ewell; tmueller@dot.state.nv.us; Tod.oppenborn@nellis.af.mil; William.C adwallader@nellis.af.mil; zip.upham@navy.mil; Joe Strolin; Tim Rubald; Alex Lanza; Dave Marlow; Kevin J. Hill; djohnston@dps.state.nv.us; John Walker; Karen Beckley; Russ Land
Cc: Searchlight_Wind_Energy_EIS@blm.gov
Subject: Nevada State Clearinghouse Notice E2012-117

NEVADA STATE CLEARINGHOUSE
Department of Conservation and Natural Resources, Division of State Lands
901 S. Stewart St., Ste. 5003, Carson City, Nevada 89701-5246
(775) 684-2723 Fax (775) 684-2721

TRANSMISSION DATE: 01/30/2012

U.S. Bureau of Land Management

Nevada State Clearinghouse Notice E2012-117

Project: Proposed Wind Energy Project near Searchlight

Follow the link below to find information concerning the above-mentioned project for your review and comment.

E2012-117 - http://www.blm.gov/nv/st/en/info/newsroom/2012/january/southern_nevada__blm.html

- **Please evaluate this project's effects on your agency's plans and programs and any other issues that you are aware of that might be pertinent to applicable laws and regulations.**

- **Please reply directly from this e-mail and attach your comments.**

- **Please submit your comments no later than Tuesday March 13th, 2012.**

Clearinghouse project archive

Questions? Skip Canfield, Program Manager, (775) 684-2723 or clearinghouse@state.nv.us

____No comment on this project ____Proposal supported as written

AGENCY COMMENTS:

Signature:

Date:

Requested By:
Searchlight_Wind_Energy_EIS

Distribution:
- Division of Emergency Management
Alan Coyner - Commission on Minerals
Alan Jenne - Department of Wildlife, Elko
Alex Lanza -
Alisanne Maffei - Department of Administration
Clearinghouse - zzClearinghouse
Cory Lytle - Lincoln County
Craig Stevenson - Department of Wildlife, Las Vegas
D. Bradford Hardenbrook - Department of Wildlife, Las Vegas
D. Driesner - Commission on Minerals
Dave Marlow -
David Catalano - Department of Wildlife, Fallon

David David - UNR Bureau of Mines
David Mouat - Desert Research Institute
Deresa Johnston - Fire Marshal
Ed Foster - Department of Agriculture
Ed Rybold - NAS Fallon
Gary Derks - Division of Emergency Management
James D. Morefield - Natural Heritage Program
Jason Woodruff - Public Utilities Commission
Jennifer Newmark -
Jennifer Scanland - Division of State Parks
John Muntean - UNR Bureau of Mines
John Walker - Nevada Division of Environmental Protection
Jon Price - UNR Bureau of Mines
Joseph C. Strolin - Agency for Nuclear Projects
Karen Beckley - State Health Division
Kevin Hill -
Kirk Bausman - Hawthorne Army Depot
Linda Cohn - National Nuclear Security Administration
Lowell Price - Commission on Minerals
Mark Freese - Department of Wildlife
Mark Harris, PE - Public Utilities Commission
Mike Dondero - Division of Forestry
Ms. Deborah MacNeill - Nellis Air Force Base
Nancy Boland - Esmeralda County
Octavious Q. Hill - Nellis Air Force Base
Pete Anderson - Division of Forestry
Pete Konesky - State Energy Office
Rebecca Palmer - State Historic Preservation Office
Rich Harvey - Division of Forestry
Robert Martinez - Division of Water Resources
Russ Land - Nevada Division of Environmental Protection
Sandy Quilici - Department of Conservation & Natural Resources
Sherry Rupert - Indian Commission
Skip Canfield, AICP - Division of State Lands
Steve Siegel - Department of Wildlife, Director's Office
Terri Compton - Department of Transportation
Terry Rubald - Nevada Department of Taxation, Local Government, Centrally Assessed Property
Tim Rubald - Conservation Districts
Timothy Mueller - Department of Transportation
Tod Oppenborn - Nellis Air Force Base
William Cadwallader - Nellis Air Force Base
Zip Upham - NAS Fallon

From: Skip Canfield [mailto:scanfield@lands.nv.gov]
Sent: Wednesday, March 14, 2012 9:13 AM
To: Patton, Hillerie C; BLM_NV_SNDO_SearchlightWindEnergyEIS
Cc: scanfield@lands.nv.gov
Subject: State Agency Comments - E2012-117 - Draft EIS for the Searchlight Wind Energy, LLC proposal

The Nevada State Clearinghouse provides the attached comments and the comments below regarding the Draft EIS for the Searchlight Wind Energy, LLC proposal.

Skip Canfield
Nevada State Clearinghouse
State Land Use Planning Agency

Nevada Division of State Lands
Department of Conservation and Natural Resources
901 South Stewart Street, Suite 5003
Carson City, NV 89701
775-684-2723
http://clearinghouse.nv.gov
www.lands.nv.gov

The Nevada Division of State Lands and the State Land Use Planning Agency offer the following comments:

Multiple use activities on Nevada's public lands are supported and encouraged. There are continuing concerns about the cumulative visual impacts to public lands users' experiences

from certain activities (temporary and permanent). Some notable activities include proliferation of new roads, poorly-sited and designed structures, lack of co-location of infrastructure and improper lighting, to name a few.

Cumulative visual impacts to public lands users' experiences should be considered.

The following language is suggested that should be provided up front to applicants who propose development on public lands that includes lighting:

Utilize appropriate lighting:

- Utilize consistent lighting mitigation measures that follow "Dark Sky" lighting practices.
- Effective lighting should have screens that do not allow the bulb to shine up or out. All proposed lighting shall be located to avoid light pollution onto any adjacent lands as viewed from a distance. All lighting fixtures shall be hooded and shielded, face downward, located within soffits and directed on to the pertinent site only, and away from adjacent parcels or areas.
- A lighting plan should be submitted indicating the types of lighting and fixtures, the locations of fixtures, lumens of lighting, and the areas illuminated by the lighting plan.
- Any required FAA lighting is exempt from this condition, but should be consolidated and minimized wherever possible.

In addition, the following mitigation measures should be employed.

Utilize building materials, colors and site placement that are compatible with the natural environment:

- Utilize consistent mitigation measures that address logical placement of improvements and use of appropriate screening and structure colors. Existing utility corridors, roads and areas of disturbed land should be utilized wherever possible. Proliferation of new roads should be avoided.
- For example, the use of compatible paint colors on structures reduces the visual impacts of the built environment. Using screening, careful site placement, and cognitive use of earth-tone colors/materials that match the environment improve the user experience for others who might have different values than what is fostered by built environment activities.
- Federal agencies should require these mitigation measures as conditions of approval for all permanent and temporary applications.

Skip Canfield
State Land Use Planning Agency

MM-VIS-5 in Section 4.9.4-Mitigation Measures has been updated to incorporate these suggestions, as appropriate.

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION
1263 S. Stewart Street
Carson City, Nevada 89712

BRIAN SANDOVAL
Governor

April 10, 2012

SUSAN MARTINOVICH, P.E., *Director*

In Reply Refer to:

MS. STEPHANIE LOCKE, ASST. PROJECT MGR.
NEWFIELDS
ENVIRONMENTAL PLANNING & COMPLIANCE
8250 W. CHARLESTON BLVD., SUITE 100
LAS VEGAS, NV 89117

SEARCHLIGHT WIND ENERGY
DRAFT ENVIRONMENTAL
IMPACT STATEMENT ON USB
FLASH DRIVE

Dear Ms. Locke:

Thank you for the opportunity to review the Searchlight Wind Energy Draft Environmental Impact Statement. Currently, the project does not appear to directly involve the use of any NDOT right-of-way along US 95 and as such we see no impacts to the Nevada Department of Transportation (NDOT).

If the project will require the use of any NDOT right-of-way for either temporary construction activities or new or modified permanent easements for items such as transmission lines or utility lines, an encroachment permit will be required. Contact the NDOT District 1 office in Las Vegas (702-385-6500) to apply for this permit. No use of NDOT right-of-way is authorized until an encroachment permit has been processed and approved.

Additionally, as needed, appropriate Oversize/Overweight Permits should also be obtained.

Please inform NDOT if there are any changes to the project which would further involve our Department.

Sincerely,

Steve M. Cooke, P.E., Chief
Environmental Services Division

SMC/DRN/tkb

Information on Nevada Department of Transportation Overdimensional Vehicle Permit was added to Table 1.6-2. Potential Federal, State, and Local Permits for the Proposed Project.

BRIAN SANDOVAL
Governor

STATE OF NEVADA
DEPARTMENT OF WILDLIFE
1100 Valley Road
Reno, Nevada 89512
(775) 688-1500 • Fax (775) 688-1595

KENNETH E. MAYER
Director
RICHARD L. HASKINS, II
Deputy Director
PATRICK O. CATES
Deputy Director

SOUTHERN REGION OFFICE
4747 Vegas Drive
Las Vegas, Nevada 89108
(702) 486-5127 · Fax (702) 486-5133

April 18, 2012

NDOW-SR#: 12-119
SAI#: E2012-117

Mr. Greg Helseth, RECO Manager
BLM – Southern Nevada District Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130

Re: Draft EIS for the Searchlight Wind Energy Project (NVN-084626 and NVN-086777 DES 11-52), Bureau of Land Management, Las Vegas Field Office, January 2012

Dear Mr. Helseth:

The Nevada Department of Wildlife (Department) has appreciated the positive and productive planning experience by participating as a cooperating agency since initial announcement of the project many years ago. Overall the Draft EIS reflects incorporation of most of the Department's project recommendations and considerations. Based on the analyses in the Draft EIS, the Department would be supportive of the BLM's Preferred Action for a project design of 87 wind turbine generators as described in section *2.1.2.3 BLM Preferred Alternative – 87 WTG Layout Alternative* beginning at the bottom of page 2-4. However, we believe there is room for additional refinements to the present document. For example, in performing review of the Draft EIS, the Department found that early inclusion of the various terrestrial wildlife reports as appendices instead of having to make additional requests, per BLM instruction, would have gone far in providing a more time efficient review. Other observations and comments to the Draft EIS include but are not limited to the following.

Page 3-25, Reptiles
The chuckwalla (*Sauromalus ater*), should be added to the list. Use of more specific nomenclature for the shovel-nosed snake would be appreciated, i.e. Mojave shovel-nosed snake (*Chionactis occipitalis occipitalis*).

Chuckwalla was added to the list. Species name for shovel snake corrected.

Page 3-25, Special-Status Wildlife Species
In addition to Nevada Revised Statutes, please note the Nevada Administrative Codes (NAC) identifying state protected, sensitive, threatened and endangered species, i.e. NAC's 503.030 - 503.080.

Section 3.4.4-Special-Status Wildlife Species updated as suggested.

Page 3-27, Gila Monster
The Gila monster also regularly frequents desert wash habitats.

Section 3.4.4-Special-Status Wildlife Species updated as suggested.

Page 3-28, Bats and Table 3.4-3
The western pipistrelle is now referred to as the canyon bat (*Parastrellus hesperus*).

Table 3.4-3 has been corrected.

Page 3-28, Table 3.4-3
Macrotus californicus (California leaf-nosed bat) is a State Sensitive Species
Myotis ciliolabrum (Western small-footed myotis) is a BLM Sensitive Species
Myotis yumanensis (Yuma myotis) is a BLM Sensitive Species

Table 3.4-3 has been corrected.

Page 3-30, Table 3.4-4 Non-Raptor Birds
All of the birds in the table are State Protected (consistent with the Migratory Bird Treaty Act, as amended; 16U.S.C. §§ 703 et seq., and listed in 50 C.F.R. § 10.13- See NAC 503.050) some of which are further classified as sensitive as is noted by superscript (b). Exceptions are for the: Gambel's quail - classified as a Game Bird (NAC 503.045) and noted by superscript (d). European starling is classified as Unprotected as per NAC 503.055. And the Sage thrasher, Brewer's sparrow, and Bendire's thrasher are BLM Sensitive Species (superscript (a)).

Table 3.4-4 has been corrected.

Wildlife Water Developments
No specific descriptive references to wildlife water developments in the project area or discussion of the potential effects of the project to them were readily found in the Draft EIS. There are three units of the Searchlight Series (Searchlight # 3, #4, and #5) of small water developments located within the project area. The three units are in good working order and used by wildlife, especially Gambel's quail. Contextual analyses addressing the conservation and recreational values (hunting and wildlife viewing) of the water developments are requested. For example, will access be modified to the benefit or detriment of the wildlife and wildlife enthusiasts consequential to construction and operation of the wind generation facility? Would there be land use restrictions imposed affecting traditional/historical use of the area and what public affairs efforts would be advisable? Lastly, the Department has responsibility for monitoring and maintaining these wildlife water developments. Should construction and operations impact the water developments directly (and the wildlife dependent on them), what measures would be adopted as mitigation? Should the water developments and the proposed project be deemed mutually exclusive, then the Department would request compensation. For example, in the event a decision to relocate or remove the water developments is tendered, then compensation to reimburse the Department for all aspects in implementing those actions is expected to be the responsibility of the project proponent, inclusive of any administrative clearances (NEPA, Cultural) required by BLM.

Refer to Section 3.4.4.2-Existing Environment under Upland Game, which has been amended to state that NDOW maintains such water sources. It is not anticipated that the proposed project would affect these sources.

Access to the project area is discussed in Section 4.7.2.2-Proposed Action – 96 WTG Layout Alternative. Impacts to wildlife as a result of increased traffic are discussed throughout Section 4.4-Biological Resources Impacts.

No effects to wildlife water developments are anticipated. However, Section 4.4.5.15-Mitigation Measures was updated to include a mitigation measure (MM-BIO-8) should the proposed project have an effect on a water development.

The Department looks to the success of the proposed project inclusive of implementing appropriate and reasonable considerations for wildlife and wildlife-related activities. To that end, additional, timely discussion among the Department, BLM, and project proponent is requested prior development of the Final EIS and Record of Decision for clarifying and/or resolving these and related outstanding items. Please do not hesitate contacting me at your earliest convenience.

Sincerely,

D. Bradford Hardenbrook
Supervisory Biologist
Southern Region, Nevada Department of Wildlife
4747 Vegas Drive, Las Vegas, Nevada 89108
702.486.5127 x3600; 702.486.5133 FAX
bhrdnbrk@ndow.org

cc: NDOW, Files
Nevada State Clearinghouse

Local Agency

LAS VEGAS VALLEY WATER DISTRICT
1001 South Valley View Boulevard
Las Vegas, NV 89153
(702) 870-2011 • lvvwd.com

RECEIVED BLM
SOUTHERN NEVADA
DISTRICT OFFICE
2012 MAR 21 AM 10 49

March 19, 2012

Gregory Helseth
Renewable Energy Project Manager
Bureau of Land Management
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130-2301

Dear Mr. Helseth:

SUBJECT: COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FOR THE SEARCHLIGHT WIND ENERGY PROJECT (NVN-084626)

The Las Vegas Valley Water District (LVVWD) appreciates the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the Searchlight Wind Energy Project (NVN-084626). LVVWD is responsible for providing water service in metropolitan Las Vegas and areas of unincorporated Clark County. LVVWD owns, operates, and maintains the Searchlight Water System, which is governed by the LVVWD Board of Directors. The board has sole responsibility for establishing rates, rules, and regulations for the sale, distribution, and use of water within Searchlight.

The Searchlight Wind Energy Project DEIS states that approximately 30 acre-feet of water would be required during the 8- to 12-month construction phase of the project for activities including road maintenance, dust suppression, worker use, and concrete batch plant operations. The potential water sources identified include the existing Searchlight Water System or another existing water right (private source) in the Searchlight area. The DEIS also states that approximately 0.15 acre-feet per year from the Searchlight Water System would be required during the operation and maintenance phase of the project. This water would be used as drinking water and for restroom facilities to support the full-time staff.

The existing Searchlight Water System consists of a groundwater production well, S-2, and an emergency backup well, S-1, with limited resource and pumping capacity. Additionally, the place of use for water from these wells, as identified by the Nevada State Engineer, is limited to the town of Searchlight. Although LVVWD is in process of improving the existing Searchlight Water System, we cannot guarantee the availability of water to support this project. Therefore, we encourage communication regarding this project and are willing to assist the proponent in addressing their water supply issues.

Should you have any questions, please feel free to contact Mao Fang at 702-258-7106 or mao.fang@lvvwd.com.

Sincerely,

Laura B. Jacobsen
Planning Manager, LVVWD Engineering

LBJ:DB:df

c: Mao Fang, Senior Civil Engineer, LVVWD

Comments noted.

Protecting the air we share
Air Quality

CLARK COUNTY • DEPARTMENT OF AIR QUALITY
4701 W. Russell Road 2nd floor • Las Vegas, NV 89118-2231
(702) 455-5942 • Fax (702) 383-9994
Lewis Wallenmeyer Director • Tina Gingras Assistant Director

April 17, 2012

Gregory Helseth
Renewable Energy Project Manager
Bureau of Land Management
Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, Nevada 89130

E-mail: ghelseth@blm.gov

Re: Draft Environmental Impact Statement for the Searchlight Wind Energy Project

Dear Mr. Helseth:

The Clark County Department of Air Quality has reviewed the draft environmental impact statement (DEIS) for the Searchlight Wind Energy, LLC (SWE) construction project and determined there will be short- and long-term impacts on air quality from emissions associated with project construction, operation, maintenance, and decommissioning.

SWE has applied to the Bureau of Land Management (BLM) for a right-of-way (ROW) grant on public lands to develop a 200-megawatt wind energy facility. The application encompasses approximately 18,800 acres of BLM-administered public lands near Searchlight, 60 miles southeast of Las Vegas. The project spans Hydrographic Areas 167, 214, and 231, all of which EPA has designated as nonattainment areas for ozone. The DEIS analyzes three alternatives: an 87-turbine layout, a 96-turbine alternative, and a no-action alternative. The BLM prefers the 87-turbine option, which has a smaller footprint than the 96-turbine one. Air Quality also supports this option.

The proposed wind turbines would be up to 262 feet high from ground to hub, with blades extending up to another 153 feet; total turbine height could reach as high as 415 feet. In addition to the turbines, the project would include construction of new access roads, two electrical substations, an overhead transmission line, an electrical interconnection facility/switchyard, an operations and maintenance building, and laydown areas.

Air emissions associated with the proposed project would be primarily short-term (8–12 months). In the construction stage, these would chiefly consist of fugitive dust from disturbed land and engine exhaust from construction equipment. Less significant contributions would be generated by worker commutes and delivery of materials and equipment to the construction site. Operation/ maintenance emissions would be produced by the building's heating and cooling system and by the vehicles for an estimated 15 workers commuting daily to the site. However, there would be no air quality impacts from power generation because electricity generated by wind involves no combustion of fossil fuels.

BOARD OF COUNTY COMMISSIONERS
Susan Brager, Chair Steve Sisolak, Vice-Chairman
Larry Brown Tom Collins Chris Giunchigliani
Mary Beth Scow Lawrence Weekly
Don Burnette, County Manager

The proposed project has a 30-year life expectancy. Air Quality anticipates that its decommissioning phase would produce a similar amount of emissions, and have a similar impact on air quality, as its construction phase.

As part of its DEIS review, Air Quality offers the following comments:

- All applicants must comply with the appropriate Air Quality Regulations (AQRs). Section 94 applies to all construction activities that disturb or have the potential to disturb soils, and that emit or have the potential to emit particulate matter into the atmosphere, on both public and private lands. In addition, it contains requirements to obtain a dust control permit, develop a dust mitigation plan, and use Best Available Control Measures. These measures are described in the "Construction Activities Dust Control Handbook," available at http://www.clarkcountynv.gov/Depts/daqem/Documents/DustControl/DustForms/DUST_CONTROL_HANDBOOK.pdf.)

- The applicant must apply for an air quality permit for any emission units or stationary sources (e.g., concrete plants, rock crushers, boilers, emergency generators) on the project capable of emitting regulated pollutants, in accordance with Section 12 of the AQRs (including all subtitles).

Thank you for the opportunity to review and comment on this DEIS. If you have any further questions, please contact Robert Tekniepe at (702) 455-4063.

Sincerely,

for Jim Gingras

Lewis Wallenmeyer
Director

Refer to Section 4.6- Air Quality Impacts and Table 1.6-2. Potential Federal, State, and Local Permits for the Proposed Project.

Table 2.6-1. APMs (common to action alternatives) under APM-3 Air Quality/Dust Control has been revised to include this requirement.

Tribal Governments

Pahrump Paiute Tribe
Post Office Box 951
Pahrump, Nevada.....89041
pahrumppaiutetribe@yahoo.com

2012 MAR -9 AM 8:21

Stephanie Locke, Assistant Project Manager, 1-702-952-2072
Gregory Helseth, 1-702-515-5176
blm_nv_sndo_searchlightwindenergyEIS@blm.gov

We have received your letter dated January 20, 2012 and two USB flash drives of the Searchlight Wind Energy Project Draft Environmental Impact Statement.

To Robert B. Ross, Jr.

The Pahrump Paiute Tribe is interested in this project within our Ancestral Homeland Territory at the Searchlight Wind Energy Project. We also feel this project may have many side effects to harm our people, water, wildlife, plants, medicines, and congestion, etc... We would also like a list of all artifacts, wildlife, birds, plants, etc... in that area. We would like to meet with you and discuss the project and concerns. We have received the flash drives and would like to have a book copy. I do not always have access to a computer. The tribe would also like to know about the feedback you had received. We would like additional time and have further questions regarding this proposed action.

Environmental Consequences
Archaeological
Biological
Botanical
Hydrologic
Religious
Cultural
Etc...

We would like to meet with you concerning all projects that need to be addressed.
We have included our meeting calendar and address of meetings.
We look forward to meeting you.

Thank You

Edward G. Jim
Pahrump Paiute Tribal Chairman
775-764-1462

The EIS provides a discussion of the biological, botanical, cultural resources, and other environmental issues that are found in the Searchlight Wind Energy Project Area.

Results of the tribal consultation conducted will be summarized in the final EIS upon final completion of consultation. Consultation has been in progress since 2009.

Pahrump Paiute Tribal Meetings for 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am – Saturday
January 14, 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am – Saturday
February 11, 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am – Saturday
March 10, 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am – Saturday
April 14, 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am – Saturday
May 12, 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am – Saturday
June 09, 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am - Saturday
July 14, 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am - Saturday
August 11, 2012

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am - Saturday
September 08, 2012 - Candidates

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am - Saturday
October 13, 2012

Annual Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am - Saturday
November 17, 2012 - Elections

Pahrump Paiute Tribal Meeting
Comstock Park Clubhouse
11:00 am - Saturday
December 08, 2012 – New Officers

Comments:
November 16, 17, 18 is the Pahrump Powwow
and Walk for Diabetes

Organizations

By email to BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov
and by Express Mail, including a CD-ROM containing referenced materials

April 13, 2012

Bureau of Land Management
BLM Las Vegas Field Office,
Attn: Gregory Helseth
4701 North Torrey Pines Drive
Las Vegas, NV 89130-2301

Dear Mr. Helseth:

Please accept these comments from Judy Bundorf, the Friends of Searchlight Desert and Mountains, and Basin and Range Watch on the draft Environmental Impact Statement ("DEIS") Searchlight Wind Energy Project (NVN-084626) (the "project"). The comments are being sent to you by email, with a separate submission by courier including a CD-ROM containing supporting and referenced materials.

TABLE OF CONTENTS

TABLE OF CONTENTS 1
INTRODUCTION 4
I. BLM Must Prepare and Distribute a Supplemental DEIS For Public Comment. 6
A. BLM must issue a supplemental DEIS based on information regarding impacts to desert tortoises. 8
B. BLM must issue a supplemental DEIS which discusses adequate alternatives, including alternative conditions which BLM may consider imposing on any ROW grants. 8
C. BLM must issue a supplemental DEIS which properly discloses the impacts to visual resources and discloses other impacts to the human environment not disclosed or evaluated in the DEIS. 9
II. The DEIS Improperly Defines the Purpose and Need for the Project, Fails to Evaluate Compliance with BLM's Statutory Obligations, and Presents Inadequate Alternatives. 10
A. The Purpose and Need statement is improperly narrow and driven by Duke's economic needs and fails to consider whether there is a need for the project. 10
B. The DEIS does not demonstrate compliance with substantive legal obligations which bind BLM. 15
1. The DEIS does not demonstrate that a ROW grant by BLM would comply with FLPMA. 15
2. The DEIS does not demonstrate that a ROW grant by BLM would comply with the Endangered Species Act. 18
3. The DEIS does not demonstrate compliance with other management obligations under various federal statutes, regulations and guidance. 20

C. The DEIS fails to consider reasonable alternatives. 22
1. BLM must consider alternatives that impose more protective conditions on the project. 23
2. BLM must consider a distributed solar generation alternative. 26
3. BLM must consider a private lands alternative and a brownfields alternative. 27
4. BLM must consider a lower tortoise density site alternative. 28
5. BLM must consider a conservation alternative. 29
6. Additional comments regarding proposed project features. 29
III. The Environmental Impacts Analysis in the DEIS is Seriously Deficient. 32
A. The DEIS fails to adequately disclose and evaluate the likely impacts of the transmission line and generation sites on natural resources. 32
1. The DEIS does not adequately address impacts to desert tortoise. 33
a. The DEIS does not address the best available science and does not provide high-quality information about the tortoise. 33
b. The DEIS does not address noise impacts to tortoise. 36
c. BLM must prepare a supplemental DEIS that adequately discloses the biological assessment and properly evaluates mitigation measures. 40
2. The DEIS does not adequately address impacts to avian populations including golden eagles, bald eagles, and other birds. 43
a. Impacts to golden eagles and bald eagles. 43
b. Impacts to other avian species. 48
3. The DEIS does not adequately address impacts to desert bighorn sheep. 50
4. The DEIS does not adequately address impacts to bats and other sensitive species. 52
B. The discussion of mitigation measures throughout the DEIS is inadequate. 55
C. The DEIS fails to disclose and evaluate adequately the likely impacts of the project on visual and scenic resources. 59
1. The DEIS presents deceptive and contradictory information about turbine color. 60
2. The photo simulations in the DEIS are misleading and present an inaccurate representation of the likely visual and scenic effects. 61
3. BLM must prepare and disclose video simulations that depict arrays of spinning turbines and video simulations that depict turbine array operations at night. 63
4. BLM must redo its simulations to depict all reasonable visual impacts scenarios and revise its visual effects analysis to incorporate necessary revisions. 65
D. The DEIS does not disclose and evaluate adequately the likely impacts of the project on recreation resources. 67
E. The DEIS does not disclose and evaluate adequately the likely impacts to vegetation, special status plants, and noxious weeds. 71
F. The DEIS does not disclose and evaluate adequately the likely impacts to wilderness values, wilderness areas, and other protected areas. 73

G. The DEIS does not disclose and evaluate adequately the likely impacts to social and economic values. ... 74
1. The DEIS fails to estimate net economic benefits. ... 74
2. The DEIS fails to consider the effects of the project on the town of Searchlight including effects on tourism and low-income and elderly populations. ... 76
3. The DEIS fails to estimate the benefits of protected lands for the local economy. ... 81
4. The DEIS economic analysis failed to account for non-market costs and benefits. ... 84
5. The DEIS relies entirely on economic base models to predict economic impacts. ... 86
H. The DEIS fails to adequately evaluate impacts to cultural and archeological resources, including impacts of development on sacred sites. ... 87
I. The DEIS fails to give adequate consideration to likely impacts to water resources. ... 88
J. The DEIS fails to adequately evaluate noise impacts. ... 90
K. The DEIS fails to adequately evaluate effects on human health and safety. ... 93
L. The DEIS fails to adequately evaluate geology and hydrogeology. ... 97
M. The DEIS fails to adequately evaluate effects on air quality and climate. ... 102
N. The DEIS fails to adequately evaluate effects on transportation. ... 103
O. The DEIS presents confusing and inaccurate information about land use. ... 105
P. The DEIS fails to give adequate consideration to cumulative effects. ... 106
1. The DEIS does not disclose the cumulative effects of the project on desert tortoise. ... 109
2. The DEIS fails to quantify the likely cumulative impact of the project on other wildlife, including birds, bats and desert bighorn sheep. ... 110
3. The DEIS fails to discuss the cumulative effects of other energy projects and transmission lines. ... 111
CONCLUSION ... 113
LITERATURE CITED ... 114

INTRODUCTION

The proposed Searchlight Wind Energy Project would squeeze at least 87 industrial-scale wind turbines and over eight miles of transmission lines into the heart of a protected area that shelters the highest density desert tortoise habitat in Nevada. The project would install turbines within one-quarter mile of residential areas in and near the town of Searchlight, and line the mountains and fragile desert landscape along the only local access to the Lake Mead National Recreation Area ("NRA") with structures as tall as Las Vegas's 435-foot tall Caesars Palace topped by spinning blades as broad as a 747 jumbo jet. This industrial energy development project would cause significant and unacceptable impacts to the natural and human environment of southern Nevada. The transmission line and the effects of the project would intrude into the Piute-Eldorado Valley Area of Critical Environmental Concern ("ACEC") and dominate the viewshed along the road to Cottonwood Cove on Lake Mohave and for hikers seeking opportunities for quiet recreation in the surrounding Searchlight Mountains.

The Bureau of Land Management ("BLM") manages the public lands surrounding the town of Searchlight under a "multiple use" mandate. However, the proposed industrial-scale energy project would effectively transform the lands within several miles in every direction from the project site (and the site itself) into a "single-use" zone, in which the effects of the enormous turbines and land disturbance would crowd out other uses. Nationally-significant scenic resources, protected species such as the desert tortoise (*Gopherus agassizii*) and desert bighorn sheep (*Ovis canadensis Nelsoni*), and the people who live in close proximity to the project site and flock to the area to recreate would have their landscape irreparably changed by the installation of a turbine array stretching over 30 square miles (18,949 acres) of largely pristine desert.

The DEIS describes that the proposed action and BLM-preferred alternative would allow construction of 96 or 87 turbines, each over 400 feet tall, within a "keyhole" surrounded by the ACEC and the critical habitat for desert tortoise it contains. Both of these virtually identical "action" alternatives would involve constructing 8.7 miles of overhead transmission line, including nearly a mile of transmission line and an interconnection facility within the ACEC itself. Duke Energy, through its wholly-owned subsidiary Searchlight Wind Energy LLC ("Duke" or the "applicant") seeks a right-of-way ("ROW") for construction, operation and maintenance of the turbines and the transmission line. The Western Area Power Administration ("Western") has applied for a ROW to construct, operate and maintain a switching station to interconnect the project with Western's Davis-Mead 230-kV transmission line.

BLM repeatedly insists in the DEIS that impacts from the two alternative are "similar," and it is apparent from Duke's Plan of Development ("POD") that the 96-turbine configuration is an artificial proposal, designed to allow BLM to go through the motions of the NEPA analysis. This is discussed further below in the Section II.C. Because the 96-turbine proposal is a straw man, our comments focus on BLM's preferred alternative to authorize construction of 87 turbines. DEIS at 2-6. The impacts from an 87-turbine configuration are unacceptable, and BLM and the public must presume that the impacts of any larger configuration would only be more so.

This section is an introduction to the comments in this letter. BLM responses to comments are addressed as appropriate in the subsequent comment sections. Additionally, these commenters provided supplemental information, which can be found on the BLM's Searchlight Wind Energy Project website at http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy/searchlight_wind_energy.html.

In the fragile desert landscape between Searchlight and the Lake Mead NRA, an industrial-scale energy facility with turbines up to 428 feet tall would dominate the skyline and industrialize a landscape hitherto largely preserved for native wildlife and traditional land uses. Access roads, turbine pads and transmission lines would fragment largely intact habitat for a variety of wildlife, destroying the scenic beauty of the Searchlight Mountains and surrounding protected areas. Turbines would intrude on residents and visitors, a constant presence disrupting the clear viewsheds and threatening potential harm to the health and safety of the surrounding human communities.

The project site and the surrounding ACEC are home to several imperiled and protected species, including the desert tortoise, desert sheep, golden eagles (*Aquila chrysaetos*), bald eagles (*Haliaeetus leucocephalus*), as well as a variety of migratory birds. The project would significantly harm desert tortoise, a species listed as "threatened" under the Endangered Species Act ("ESA") and under tremendous pressure throughout its range from proposed energy development and fragmentation of its habitat. The U.S. Fish & Wildlife Service ("USFWS"), the federal agency responsible for protecting the tortoise, issued a Revised Recovery Plan for the Mojave Population of the Desert Tortoise ("Recovery Plan") in May 2011, describes there is a developing and serious "threat of large-scale energy development and the potential impacts to desert tortoises and their habitat." Recovery Plan at ii, 16, 138–39.

Because of the unique factors present surrounding the Searchlight project site, BLM must take a close and exhaustive look at the likely impacts of the proposed construction and operation of turbines and a transmission line. Instead, the DEIS is inadequate to inform the public about the actions that BLM is considering, in violation of the National Environmental Policy Act ("NEPA") and their substantive legal obligations. The DEIS improperly narrows the scope of impacts evaluated, ignores essential information regarding tortoise, raptors, and other impacts, presents biased, misleading or incorrect information regarding potential impacts, and was largely drafted at the instigation of the applicant without any evidence that the BLM supplied substantive input or expertise.

The DEIS draws conclusions about the impacts of the project without adequate collecting and disclosing information and acknowledges that further study will be required to resolve some of these issues. Description and evaluation of the efficacy of mitigation measures is almost non-existent, and what little is disclosed is inadequate, indicating that mitigation will be postponed to some indeterminate future process. No information is presented regarding potential conditions which BLM is considering imposing on the generation/transmission and interconnection ROWs to protect the environment and the resources on private and public lands affected by the project. Yet the DEIS repeatedly posits that the environmental impacts of the project are insignificant or can be mitigated, despite the lack of complete mitigation plans for issues such as visual impacts, health and safety impacts, desert tortoise, golden eagles, other raptors, cultural resource impacts, and other impacts to protected areas of public land.

The absence of detailed and precise information about likely impacts and mitigation measures renders BLM's conclusions regarding the project's impacts invalid. Merely including this information in a final Environmental Impact Statement ("EIS") does not satisfy NEPA

unless a supplement is prepared and the public is given a full and fair opportunity to comment on the missing information. *See* 40 CFR § 1500.1(b) ("NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken."). Under NEPA, an agency cannot withhold information from public review until just before (or after) it makes a decision.

Because of the deficiencies in the DEIS, BLM must issue a Supplemental DEIS that adequately discloses and completely evaluates the likely environmental impacts that will flow from a decision authorizing a ROW over public lands to generate and transmit power in the proximity of Searchlight and through and adjacent to the Piute-Eldorado Valley ACEC. The Supplemental DEIS also must disclose what alternative conditions BLM is considering imposing on any ROW grant to allow the public to review and comment on whether they are adequate to mitigate the dramatic ecological and visual effects of the generation and transmission project on the human and natural environment.

Even without the additional disclosure required by NEPA, it is apparent from the preliminary information presented in the DEIS that the heart of an otherwise protected landscape adjacent to a local population center is the wrong place to develop an industrial-scale wind energy project. BLM's statutory obligations to manage federal lands on and near the project site precludes it from approving ROWs for a generation and transmission project that would render the area unlivable for the ESA-listed tortoise and the residents and visitors who depend on the public lands from which their use would effectively be excluded. BLM, or the Secretary of the Interior, ultimately should chose the "no action" alternative and deny the ROW applications to develop this project.

I. BLM Must Prepare and Distribute a Supplemental DEIS For Public Comment.

Congress enacted NEPA in 1969, directing all federal agencies to assess the environmental impact of proposed actions that significantly affect the quality of the environment. 42 U.S.C. § 4332(2)(C). NEPA's disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) to insure that the public has sufficient information to challenge the agency's action. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 322, 349 (1989); *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998). NEPA's "sweeping commitment [is] to prevent or eliminate damage to the environment and biosphere by focusing government and public attention on the environmental effects of proposed agency action." *Marsh v. Or. Natural Resources Council*, 490 U.S. 360, 371 (1989) (*quoting* 42 U.S.C. § 4321). The Council on Environmental Quality ("CEQ") promulgated uniform regulations to implement NEPA that are binding on all federal agencies. 42 U.S.C. § 4342; 40 C.F.R. §§ 1500 *et seq.*

NEPA requires agencies to prepare an EIS for any "major federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). An EIS must analyze the direct, indirect, and cumulative environmental impacts of the proposed action. Direct effects are caused by the action and occur at the same time and place as the proposed project. 40 C.F.R. § 1508.8(a). Indirect effects are caused by the action and are later in time or farther removed in

The provisions for preparation of a Supplemental EIS are described in 40 CFR 1502.9, (c) (1) (i), "The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."
Preparation of a Supplemental EIS is not warranted because neither of these conditions apply, the proposed action has not been substantively changed since publication of the DEIS and no significant new information was provided or developed during the public comment period.

distance, but are still reasonably foreseeable. *Id.* at § 1508.8(b). Both types of impacts include "effects on natural resources and on the components, structures, and functioning of affected ecosystems," as well as "aesthetic, historic, cultural, economic, social or health [effects]." *Id.* at § 1508. Cumulative impact results when the "incremental impact of the action [is] added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." *Id.* at § 1508.7.

A major purpose of NEPA is to ensure that federal agencies conduct fully informed environmental decision-making. NEPA promotes its sweeping commitment to "prevent or eliminate damage to the environment and biosphere" by focusing the attention of federal decision makers and the public on the environmental and other impacts of proposed agency action. 42 U.S.C. § 4321. By focusing agency attention on the environmental and socioeconomic impacts of a proposed action, NEPA ensures that the agency will not act on incomplete information, only to regret its decision once finalized. *See Methow Valley Citizens Council*, 490 U.S. at 349. To that end, "[t]he sweep of NEPA is extraordinarily broad, compelling consideration of any and all types of environmental impacts of federal action." *Calvert Cliffs' Coordinating Comm. v. U.S. Atomic Energy Comm'n*, 449 F.2d 1109, 1122 (D.C. Cir. 1971). An agency must "take the initiative of considering environmental values at every distinctive and comprehensive stage of the process." *Id.* at 1111. Federal agencies must consider all reasonably foreseeable environmental impacts at the earliest possible stage of a project's development and fully such impacts before making a decision to proceed with the project.

Under the NEPA regulations, a draft EIS "must fulfill and satisfy to the fullest extent possible the requirements established for final statements." 40 C.F.R. § 1502.9(a). When a draft EIS "is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." *Id.* Substantial changes in the proposed action, or significant new circumstances or information relevant to environmental concerns, trigger a mandatory obligation to prepare a supplemental draft EIS. *Id.* § 1502.9(c)(1).

"NEPA's public comment procedures are at the heart of the NEPA review process" and reflect "the paramount Congressional desire to internalize opposing viewpoints into the decision making process to ensure that an agency is cognizant of all the environmental trade-offs that are implicit in a decision." *Cal. v. Block*, 690 F.2d 753, 770-71 (9th Cir. 1982). It is only at the stage when the draft EIS is circulated that the public and outside agencies have the opportunity to evaluate and comment on the proposal. *Id.* at 771. "No such right exists upon issuance of a final EIS." *Id.* Consequently, an agency's failure to disclose the impacts of a proposed action before the issuance of a final EIS defeats NEPA's goal of encouraging public participation in the development of information *during* the decision making process. *Half Moon Bay Fishermans' Marketing Ass'n v. Carlucci*, 857 F.2d 505, 508 (9th Cir. 1988).

BLM is required to "describe the environment of the areas to be affected or created by the alternatives under consideration." 40 CFR § 1502.15. The establishment of the baseline conditions of the affected environment is a practical requirement of the NEPA process. In *Half Moon Bay*, the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and

Chapter 3.0-Affected Environment provides baseline data for the proposed project area. Additionally, BLM provided the following technical reports on the BLM Searchlight Wind Energy Project (NVN-084626) website: Raptor Nest Survey Report, Botanical Report, Monitoring Bat Populations April 2008-April 2009, Avian Survey Report, Desert Tortoise Inventory Report, and Terrestrail Wildlife Survey Report (http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy/searchlight_wind_energy.html).

consequently, no way to comply with NEPA." 857 F.3d at 510. Similarly, without a clear understanding of the current status of these public lands BLM cannot make a rational decision regarding proposed project. *See Ctr. for Biol. Diversity v. BLM*, 422 F. Supp. 2d 1115, 1166-68 (N.D. Cal. 2006) (holding that it was arbitrary and capricious for BLM to approve a project based on outdated and inaccurate information regarding biological resources found on public lands). As described throughout these comments, BLM has failed to provide accurate baseline information about a wide variety of resources at and surrounding the project site, including the status of the desert tortoise and other sensitive and rare plant and animal communities.

A draft Environmental Impact Statement must provide the public with sufficient information to permit meaningful consideration of the action under agency review. *Cal. v. Block*, 690 F.2d at 772. The DEIS here fails to provide sufficient information in several regards and requires supplementation and further opportunity for public review and comment.

A. BLM must issue a supplemental DEIS based on information regarding impacts to desert tortoises.

The DEIS fails to disclose significant information regarding the desert tortoise, including the USFWS's most recent recovery plan for the tortoise and recent studies by federal and state wildlife officials demonstrating that the handling and translocation of tortoises will cause unacceptably high rates of mortality. This new information triggers BLM's responsibility to produce a supplemental DEIS disclosing this data to the public and providing the BLM's evaluation of the data. 40 C.F.R. § 1508.25(a). The DEIS also discloses no information about what mitigation actually will be implemented to minimize impacts to tortoises, but rather all mitigation is still purely hypothetical. DEIS at 2-43 to 2-44.

BLM must evaluate and present information about mitigation in the supplemental DEIS. Prematurely publishing a DEIS that lacked critical information regarding environmental impacts violates NEPA. BLM also must engage its own expertise, and enlist that of USFWS, in surveying the areas on and adjacent to the project site for tortoises, and in describing the likely impacts of noise and habitat fragmentation not only on the site itself, but also in the surrounding ACEC that is designated tortoise critical habitat. BLM cannot rely only on information provided by Duke's consultants to protect this threatened species.

B. BLM must issue a supplemental DEIS which discusses adequate alternatives, including alternative conditions which BLM may consider imposing on any ROW grants.

As described in more detail in Section II.C, the DEIS fails to discuss adequate alternatives. The DEIS contains no discussion of alternative conditions BLM is considering to satisfy its obligation under the Federal Lands Policy and Management Act ("FLPMA"), the Endangered Species Act, the Bald and Golden Eagle Protection Act, and other statutory obligations. By failing to disclose potential conditions that could be applied to the ROW grants to mitigate environmental impacts and comply with BLM's substantive statutory obligations, BLM has failed to prepare an adequate DEIS, and must issue a supplemental DEIS which

Judy Bundorf – Friends of Searchlight Desert and Mountains - Basin and Range Watch
Comments on Searchlight Wind Energy Project DEIS, April 2012 8

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion). No tortoise translocation is proposed for this project. Potential effects of handling tortoises are discussed in Section 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives and in Appendix B-2: USFWS Biological Opinion.

BLM requires that mitigation measures be implemented as a stipulation of the ROW Grant. Development of mitigation plans often requires input, review, and approval by other regulating agencies such as USFWS, NDEP, DAQ, and NDOT and is not typically completed prior to a Final EIS. All the elements and basic requirements of the mitigation plans are discussed throughout the EIS.

Independent third party contractors that have no interest in the outcome of the project completed the biological surveys, species information, and impact assessment. USFWS-approved protocols for desert tortoise surveys were used. BLM resource specialists then reviewed impact assessments.

A discussion of habitat fragmentation was added to the EIS in 4.4.5.2 Desert Tortoise – Direct and Indirect Impacts by Alternatives and Appendix B-2: USFWS Biological Opinion. For an updated discussion of noise impacts to wildlife Section 4.4.4-Wildlife.

The two action alternatives satisfy the purpose and need in that they fulfill BLM's obligation to consider the ROW applications under FLPMA and NEPA, and are consistent with other applicable federal mandates and renewable energy policies and goals.
The BLM developed a purpose and need statement and considered a range of reasonable alternatives consistent with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instruction Memorandum 2011-059. The purpose and need statement appropriately integrates Congress's goal that the Secretary of the Interior should seek to approve renewable energy projects on the public lands; direction from Secretarial Order 3285A1 (March 11, 2009, amended February 22, 2010), which establishes the development of environmentally responsible renewable energy as a priority for the Department of the Interior; and the BLM's responsibility under FLPMA to manage the public lands for multiple use, taking into account the long-term needs of future generations for renewable and non-renewable resources. The two action alternatives

adequately evaluates alternatives for complying with the statutory objectives which bind the agency. *Or. Natural Desert Ass'n v. BLM*, 625 F.3d 1092, 1109 (9th Cir. 2010) ("*ONDA v. BLM*") ("the considerations made relevant by the substantive statute driving the proposed action must be addressed in NEPA analysis"). The DEIS fails to consider a variety of factors that derive from the statutes which BLM is implementing and under which it has specific statutory obligations.

The supplemental DEIS will also be an opportunity to rectify BLM's failure to include reasonable alternatives. As discussed below, evaluating only the applicants' proposed action and an almost identical preferred alternative that is identical in every respect except with 9% fewer turbines does not satisfy NEPA's obligation that BLM rigorously explore and objectively evaluate *all* reasonable alternatives, including alternatives not within BLM's jurisdiction. In addition to disclosing and evaluating ROW conditions that BLM would apply to the proposed action and preferred alternative which will address the statutory obligations that bind BLM to protect the resources present on and around the project site, BLM must evaluate reasonable alternatives that will be minimize impacts from the project. These include alternatives that would allow Duke to attain its objective of generating 200 MW of electricity through distributed solar generation, or produce the electricity from private lands or brownfields sites, or on any site where the density of desert tortoise is not as great as on the Searchlight project site.

C. BLM must issue a supplemental DEIS which properly discloses the impacts to visual resources and discloses other impacts to the human environment not disclosed or evaluated in the DEIS.

BLM also must issue a supplemental DEIS to disclose and allow the public to comment on a series of factors and issues for which there is no analysis in the DEIS, or for which the analysis in the DEIS is woefully inadequate or misleading. These are discussed at length in the sections below, but include (1) woefully misleading visual resource impacts simulations, which do not correctly illustrate the likely actual impacts to scenic resources; (2) incomplete and inaccurate information about the economic and social costs associated with building an utility-scale wind-project in this location; (3) undisclosed and unevaluated potential harm to human health and safety from the construction and operation of the project; and (4) lack of disclosure of mitigation plans and conditions to limit the harmful effects of the project on the human and natural environment.

BLM must wait to prepare the supplemental DEIS until it or other agencies have completed the mitigation studies and plans described in the DEIS. As described in more detail below in Sections III.A.1.c and III.B, an EIS must have the mitigation measures "developed to a reasonable degree," not simply list them. *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 734 (9th Cir. 2001). In addition, the agency must analyze the *effectiveness* of the proposed mitigation. *S. Fork Band Council of W. Shoshone v. U.S. Dep't of Interior*, 588 F.3d 718, 727 (9th Cir. 2009). The DEIS describes that at least a dozen analyses or mitigation plans have not yet been completed and contain no information about what the plans actually will require. DEIS at 1-14 to 1-21; 2-24 to 2-50. Nor does the DEIS contain any information about the crucial "mitigation" through the terms and conditions of a biological opinion for the project's effects on

satisfy the purpose and need in that they fulfill BLM's obligation to consider the ROW applications under FLPMA and NEPA, and are consistent with other applicable federal mandates and renewable energy policies and goals.

The BLM does not need to analyze in detail an alternative for distributed generation because such an alternative would not respond to the purpose and need to consider an application for the authorized use of public lands for a specific renewable energy technology. Additionally, the Energy Policy Act of 2005 established a goal for the Secretary of the Interior to approve at least 10,000 MWs of electricity from non-hydropower renewable energy projects located on public lands. The Act reflects Congress's conclusion that installation of renewable energy technologies on the public lands capable of producing at least 10,000 MWs is appropriate. Moreover, as described in the EIS, the Department and the BLM have issued policies and guidance promoting the development of renewable energy development on BLM-administered public lands. Given the current state of the technology, only utility-scale renewable energy generation projects are reasonable alternatives to achieve this level of renewable energy generation on public lands. Furthermore, the BLM has no authority or influence over the installation of distributed generation systems, other than on its own lands. The BLM is evaluating the use of distributed generation at individual sites through other initiatives (Executive Order 13514 and DOI implementing actions).

The BLM will not typically analyze a non-Federal land alternative for a right-of-way application on public lands because such an alternative does not respond to the BLM's purpose and need to consider an application for the authorized use of public lands for renewable energy development.

Applicant Proposed Measures and Mitigation measures are disclosed in Table 2.6-4. Applicant Proposed Measures, and Table 2.6-2. Mitigation Measures, respectively. BLM requires that mitigation measures are identified in the ROW Grant. Development of mitigation plans often requires input, review, and approval by other regulating agencies such as USFWS, NDEP, DAQ, and NDOT. As such these plans are not typically completed prior to a Final EIS. However, all the elements and basic requirements of the mitigation plans are discussed throughout the EIS.
.

ESA-listed threatened desert tortoise, nor any information about terms and conditions of a take permit under the Bald and Golden Eagle Protection Act to cover likely take of golden eagles by the project's turbines.

When a draft EIS "is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." 40 C.F.R. § 1502.9(a). As described more fully below, the DEIS's discussion of the likely effects on biological, transportation, visual, socioeconomic, and other resources is inadequate as it currently stands to preclude meaningful public participation and to preclude meaningful analysis by the agency. The discussion of "mitigation" likewise refers to plans and other mitigation measures that are to be developed sometime in the future, and therefore it is impossible for the DEIS to provide any description, much less analysis, of the effectiveness of the proposed mitigation. Accordingly, BLM must prepare a supplement to the DEIS for public review and comment.

II. The DEIS Improperly Defines the Purpose and Need for the Project, Fails to Evaluate Compliance with BLM's Statutory Obligations, and Presents Inadequate Alternatives.

A. The Purpose and Need statement is improperly narrow and driven by Duke's economic needs and fails to consider whether there is a need for the project.

The DEIS impermissibly defines the "purpose and need" for the proposed action too narrowly, precluding development of reasonable alternatives. DEIS § 1.3. In the EIS, an agency must "'rigorously explore and objectively evaluate all reasonable alternatives' to a proposed plan of action that has significant environmental effects." *NRDC v. U.S. Forest Serv.*, 421 F.3d 797, 813 (9th Cir. 2005) (citing 40 C.F.R. § 1502.14(a)). In order to do so, the agency must first reasonably and objectively define the purpose and need of a proposed action. *See Simmons v. U.S. Army Corps of Eng'rs*, 120 F.3d 664, 666 (7th Cir. 1997) (citing *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 195–96 (D.C. Cir. 1991)). The chosen statement of purpose and need effectively dictates the range of alternatives evaluate in an EIS. *Id.* "[A]n agency cannot define its objectives in unreasonably narrow terms." *City of Carmel-By-The-Sea v. U.S. Dep't of Transp.*, 123 F. 3d 1142, 1155 (9th Cir. 1997). "An agency may not define the objectives of its action in terms so unreasonably narrow that only one alternative . . . would accomplish the goals of the agency's action, and the EIS would become a foreordained formality. *Nat'l Parks & Conservation Ass'n v. Bureau of Land Mgmt.*, 606 F.3d 1058, 1070 (9th Cir. 2010). Moreover, an agency may not allow the economic needs and goals of a private applicant to define the purpose and need, and hence the inevitable outcome, of an EIS. *Id.*

Federal agencies must "'exercise a degree of skepticism in dealing with self serving statements from a prime beneficiary of the project and to look at the general goal of the project rather than only those alternatives by which a particular applicant can reach its own specific goals." *Envtl. Law & Policy Ctr. v. U.S. Nuclear Reg. Comm.*, 470 F.3d 676, 683 (7th Cir. 2006) (quoting *Simmons*, 120 F.3d at 666). When the purpose and need of a project are overly narrow, the resulting range of alternatives is inadequate under NEPA. *See Envtl. Law & Policy Center*, 470 F.3d at 684 (citing *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 199 (D.C. Cir.

The BLM developed a purpose and need statement and considered a range of reasonable alternatives consistent with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instruction Memorandum 2011-059. The two action alternatives satisfy the purpose and need because they fulfill BLM's obligation to consider the ROW applications under FLPMA and NEPA and because they are consistent with other applicable federal mandates and renewable energy policies and goals.

large-scale energy development fragmenting or isolating desert tortoise conservation areas and cutting off gene flow between these areas *have not been evaluated*." *Id.* How is it possible that BLM would even consider permitting new projects in prime desert tortoise habitat when the effects of energy development on tortoises has not been evaluated?

In addition, Secretarial Order 3285A1 establishes that development of *environmentally responsible* renewable energy is a priority for the Department of the Interior. This project, in the "preferred" 87-turbine configuration, in no way can be considered "environmentally responsible." Of the 20 "potentially affected resources" BLM evaluates, 16 will be impacted in a negative manner. DEIS at 1-9. The removal of vegetation and destruction of cryptobiotic soil crusts which "fix" carbon may actually accelerate climate change more than the supposedly "green" wind energy will reduce impacts.

The DEIS fails to even acknowledge that BLM has no obligation or responsibility whatsoever to meet the Duke's needs or desires. As a result, the applicant-identified needs are defining and driving the characteristics of this project and the alternatives thereto. This approach is inappropriate and unlawful. The DEIS must identify whether there truly is a need for energy transmission and generation facilities near Searchlight. BLM must evaluate whether wind energy generation and transmission is an appropriate use for the federally-protected lands and adjacent private lands that the project would affect.

In this DEIS, the "purpose and need" is defined as simply approving, conditionally approving, or denying the ROW applications. DEIS at xi, 1-6, 1-7. This is a breathtaking abrogation of BLM's obligation to consider "all reasonable alternatives" and whether there is truly a need for Duke's wind energy project. Any "need" for this federal action, beyond satisfying Duke's request, is not described at all. In particular, there is no evidence presented in the DEIS that it is necessary to generate wind energy in the Searchlight area, and consequently no evidence that this project is needed at all. No quantitative data on wind suitability is presented in the DEIS, and BLM has not evaluated alternative regional systems for generating and transmitting electrical power from renewable sources that would not involve crossing protected areas.

Duke has not demonstrated that there is a need to construct this generation project based on the availability of wind resources at those locations. In fact, the DEIS includes a map of wind resources in Nevada with the project area designated by a vague oval, showing that that the wind speed at the project site averages less than 5 to 6 meters per second, near the lower end of the scale. DEIS at 1-3. A more detailed map of wind energy potential, prepared by the U.S. Department of Energy's National Renewable Energy Laboratory, shows that the vast majority of the project area is within "marginal" (Class 2) wind power potential classification. Nevada Wind Resources NERL map, Exhibit 2, also included in high-resolution pdf on CD-ROM due to size.

BLM must disclose meteorological information from the project site and include this information for public review in any supplement to the DEIS. Four meteorological towers are located in the project site, DEIS at 2-16, but there is no information provided in the DEIS regarding the data that has been observed. This information is simple for the agency to obtain

The BLM continues to work on environmentally responsible development of utility-scale renewable energy projects on the public lands as part of the Administration's efforts to diversify the Nation's energy portfolio.

Comment noted. No current data exists to support that the loss of such a small amount of soil crust relative to available crust would create a measurable change in CO2 volumes in the atmosphere.

The BLM decisions to be made are presented in *Section 1.3.2-BLM Decisions to be Made*, of the EIS. One of the options is to deny the ROW applications. Another option is to grant the ROW application with modifications, so that the BLM's authorization would differ from the applicant's ROW proposal. Though the BLM has considered Searchlight Wind Energy's objective for the project, which is presented in *Section 1.3-Background*, Searchlight Wind Energy's objective is not the BLM's purpose and need for the project. BLM's purpose and need is described at Section xxx of the FEIS.

The EIS's purpose and need statement and consideration of alternatives comply with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instructional Memorandum 2011-059. The purpose and need statement appropriately integrates Congress's goal that the Secretary of the Interior should seek to approve renewable energy projects on the public lands; direction from Secretarial Order 3285A1 (March 11, 2009, amended February 22, 2010), which establishes the development of environmentally responsible renewable energy as a priority for the Department of the Interior; and the BLM's responsibility under FLPMA to manage the public lands for multiple use, taking into account the long-term needs of future generations for renewable and non-renewable resources. Consistent with NEPA, the EIS analyzes the direct, indirect, and cumulative effects of the proposed action and alternatives.

Searchlight Wind Energy, LLC has conducted site specific testing (using Meteorological Data collected for 5 years) and determined that sufficient wind exists to support the project. Data collected from MET towers at the application site is proprietary information and is not available.

from Duke and produce in a format that would allow the public and the decision maker to evaluate whether this proposed industrial-scale energy site should be approved. *See, e.g.* Exhibit 3 (three maps depicting wind speeds at all turbine locations at the Whistling Ridge Wind Energy project in southwestern Washington state). Without this information, there is no basis for the public to evaluate the claim that there is a "need" for the proposed wind project in this area that has only marginal potential for wind power production.

Furthermore, the map of wind resources in the DEIS at 1-3 is difficult to read and so small that it cannot be interpreted. In its supplemental DEIS along with information about the *monitored* wind speeds at the site, BLM must include appropriately-scaled maps that show the project area accurately in conjunction with wind speed data. *See, e.g.*, Exhibit 3. BLM also should include more detailed maps of the site, such as the one prepared by Duke's consultant and included on the attached CD-ROM as "'Figure 1 – Duke SWEP Project Area – LARGE MAP," to make it easier for the public to evaluate the proposed layout and its impacts. It is also unclear why the proximity to Las Vegas and Henderson and the meteorological station in the latter city are relevant to the disclosure of information in the DEIS, when the power from this project is not destined for Las Vegas and Duke has had meteorological towers in place at the project site itself for more than three years. DEIS at 1-2, 3-37. Why is this data not disclosed, rather than data from a weather station nearly 50 miles away?

The DEIS also fails to evaluate whether relying on or expanding other renewable energy alternatives would be a practicable alternative and adequately or accurately analyze the full range of reasonable project alternatives. *See* 40 C.F.R. § 1502.14(a); *NRDC v. USFS*, 421 F.3d 797 (9th Cir. 2005); *Simmons*, 120 F.3d 664; *Envtl. Law & Policy Ctr.* 470 F.3d 676; *Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002). BLM has not considered whether there exist potential alternative sites for generating wind energy that would involve less ecologically sensitive areas than an area surrounded on all sides by an Area of Critical Environmental Concern and adjacent to a concentrated human population, including generation sites that are closer to existing transmission lines or distributed generation alternatives that would involve little or no additional new transmission line construction.

The DEIS has also failed to consider whether the lower efficiency and higher maintenance cost of wind energy generation and long-distance electricity transmission, compared to other renewable generation alternatives (solar, geothermal, hydropower, distributed generation) would obviate any need for this project. The DEIS also does not evaluate whether there really is a need for long-distance transmission, when other wind energy generation sites with suitable wind (and other renewable energy generating sites) are located closer to existing transmission lines. The DEIS also has not evaluated whether the relatively limited estimated life-span of a wind energy generation project (30 years, *see* DEIS at 4-41) justifies the construction of a generation and transmission project on federal lands surrounded by a protected ACEC.

The DEIS also provides no information that would allow the public or the decisionmaker to evaluate whether it should approve a project that is economically infeasible for reasons besides the weak wind resources at the project site. For example, the DEIS does not disclose and evaluate that the Production Tax Credit and the Section 1603 Grant program has not been

The purpose of this document is to evaluate environmental impacts of the proposed project and alternatives for which the Applicants have submitted ROW applications as stated in Section 1.3.1-BLM's Purpose and Need for the Proposed Project. Searchlight Wind Energy, LLC has conducted site specific testing (using Meteorological Data collected for 5 years) and determined that sufficient wind exists to support the project. Data collected from MET towers at the application site is proprietary information and is not available.

The purpose of this document is to evaluate environmental impacts of the proposed project and alternatives for which the Applicants have submitted ROW applications as stated in Section 1.3.1-BLM's Purpose and Need for the Proposed Project, of the EIS

renewed by Congress. BLM must disclose and evaluate whether this project will be economically feasible if the tax credits are not renewed, and present that information to the public and the decision maker *before* a decision is made to grant the ROWs.

The DEIS also improperly and incorrectly suggests that there is a need for wind energy from Searchlight to satisfy the Nevada Renewable Portfolio Standard ("NRPS"). DEIS at 1-6. However, there presently is no demand for additional renewable energy in Nevada to meet the NRPS. Nevada's economy was one of the hardest hit in the nation by the 2008 recession, and demand for energy of all types has been lower in recent years due to poor economic conditions. The DEIS discloses no information to describe and analyze the "prevailing market demand for renewable energy." DEIS at 1-6. The BLM must disclose accurate information about purported need for the electricity that would be generated by the project, and provide high-quality data showing what the current market for renewable energy in Nevada actually is.

In Section 1.3-Background, the DEIS states, "The Nevada Renewable Portfolio Standard (NRPS) *provides the Applicant with the opportunity* to propose this project because the NRPS mandates that state utilities provide for renewable energy offerings and consumption goals that meet prevailing market demand for renewable energy."

In addition, Duke represented to the Public Utilities Commission of Nevada in September 2009 that the project is designed "to meet the growing demand for [renewable] power in Nevada and the Western United States." Searchlight Wind-Duke Permit App. to PUC 9-2009, at 2 (on attached CD-ROM). However, there is no evidence that there currently is any "growing demand" for this power, either in Nevada or in the closest neighboring states. Indeed, the state of California, which consumes more energy than any other state, described in August 2011 that it no longer has a demand for importation of electricity generated from renewable energy. Exhibit 4. In the past two years, California has permitted 5,000 MW of renewable power in eleven large solar and wind projects, bringing the total permitted over the past two years to more than 10,000 MW. *Id.* at 1. California has 513 projects seeking permits to construct and operate renewable energy facilities that would produce 49,775 MW of generation capacity. *Id.*

Comment noted.

California now forecasts that it will exceed its goal of producing 33% of its electricity with renewables by 2020, and instead now expects it may be an *exporter* of renewable energy by that time. *Id.* at 2. Because California no longer has a demand for importation of renewable energy, the Governor's Office expressed that "[w]e are also particularly concerned when we see proposals for large renewable energy resource development outside of California interconnecting across long distances into California." *Id.* The DEIS does not disclose information about the "rapidly changing dynamics in California." *Id.* at 4. BLM must disclose and analyze information about the market for the energy that would be generated at this particular site, and whether there is, in fact, a "need" for the power that would be generated by the Searchlight Wind Project, before it can make a rational decision whether to approve the ROWs for this project.

The BLM is a land management agency and is responding to applications filed by Searchlight Wind Energy, LLC, and Western for use of the public lands. The BLM has processed those applications consistent with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instructional Memoranda 2011-059, 2011-061, and 2009-043. The BLM has appropriately considered Congress's goal that the Secretary of the Interior should seek to approve renewable energy projects on the public lands; direction from Secretarial Order 3285A1 (March 11, 2009, amended February 22, 2010), which establishes the development of environmentally responsible renewable energy as a priority for the Department of the Interior; and the BLM's responsibility under FLPMA to manage the public lands for multiple use, taking into account the long-term needs of future generations for renewable and non-renewable resources.

The DEIS also repeatedly asserts that the project will produce 200 MW of power, while in fact wind energy facilities typically produce about 30% of the rated capacity, meaning that the project will in fact produce only about 66 MW of electricity. Thus any evaluation of the "need" for this project must take into account this lower figure and clarify and correct the generation capacity cited in the DEIS.

B. The DEIS does not demonstrate compliance with substantive legal obligations which bind BLM.

The DEIS does not disclose how BLM intends to exercise its authority and satisfy its obligations under the substantive statutes which apply to the lands they manage on and near Searchlight and in the Piute-El Dorado ACEC. When determining what kind of EIS must be prepared, an agency must first describe accurately the federal action to be taken. *ONDA v. BLM*, 625 F.3d at 1109. "Where an action is taken pursuant to a specific statute, the statutory objectives of the project serve as a guide by which to determine the reasonableness of objectives outlined in an EIS, so too do the statutory objectives underlying the agency's action work significantly to define its analytic obligations." *Id.* (internal quotations and citation omitted). Because NEPA places an obligation on BLM to evaluate every significant aspect of the impact of the proposed action, "the considerations made relevant by the substantive statute driving the proposed action must be addressed in NEPA analysis" and "the factors to be considered are derived from the statute the major federal action is implementing, as well as from the nature of the action itself." *Id.* & *id.* n.11.

The DEIS does not consider significant factors related to BLM's compliance with its obligations under the substantive statutes which govern the proposed ROW grants and which cover the agency's management obligations in southern Nevada.

1. The DEIS does not demonstrate that a ROW grant by BLM would comply with FLPMA.

The DEIS describes that BLM will decide whether to grant ROWs for Duke's generation/transmission project and Western's interconnection, and use the EIS process to approve, modify or deny the ROW grants. DEIS at 1-7. The DEIS also recognizes that BLM may place conditions on any ROW grants, which could restrict, even dramatically, the activities on the project site, in order to comply with BLM's legal mandates for managing federal lands.

BLM's management obligations derive from FLPMA. Regarding ROW grants, FLPMA states that

> Each right-of-way shall contain…
>
> (a) terms and conditions which will (i) carry out the purposes of this Act and rules and regulations issued thereunder; (ii) minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment; (iii) require compliance with applicable air and water quality standards established by or pursuant to applicable Federal or State law; and (iv) require compliance with State standards for public health and safety, environmental protection, and siting, construction, operation, and maintenance of or for rights-of-way for similar purposes if those standards are more stringent than applicable Federal standards; and

Comment noted. The Piute-Eldorado ACEC was considered in the DEIS in Section 1.4- Summary of Public Scoping and Issue Identification, Section 3.8.2.4 -under Special Designations, Section 4.8.2.2-under Special Designations, and Section 4.11.2.2-under Recreation. No activities would occur in the ACEC except as allowable under the BLM Las Vegas RMP. The ACEC would remain a ROW avoidance area. No activities would occur in the ACEC except as allowable under the Las Vegas RMP. The ACEC would remain a ROW avoidance area.

Refer to Section 1.5-Land Use Plan Conformance Determination and describes the project's conformance with the RMP.

(b) such terms and conditions as the Secretary concerned deems necessary to (i) protect Federal property and economic interests; (ii) manage efficiently the lands which are subject to the right-of-way or adjacent thereto and protect the other lawful users of the lands adjacent to or traversed by such right-of-way; (iii) protect lives and property; (iv) protect the interests of individuals living in the general area traversed by the right-of-way who rely on the fish, wildlife, and other biotic resources of the area for subsistence purposes; (v) require location of the right-of-way along a route that will cause least damage to the environment, taking into consideration feasibility and other relevant factors; and (vi) otherwise protect the public interest in the lands traversed by the right-of-way or adjacent thereto.

43 U.S.C. § 1765. Of note, a ROW must contain terms and conditions that will "carry out the purposes of FLPMA" and "minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment. *Id.* § 1765(a). FLPMA also requires that a ROW contain terms and conditions necessary to "protect Federal property and economic interests," efficiently manage the lands that are subject to the ROW "or are adjacent thereto, and "otherwise protect the public interest" in the ROW lands or lands "adjacent thereto." *Id.* § 1765(b) The DEIS nowhere describes how any ROW grant would comply with these obligations under FLPMA.

The DEIS explains that the "project area is to the northeast, east and southeast of Searchlight and encompasses approximately 29 total square miles (18,949 acres) of both private and BLM-administered lands in the Eldorado Mountains and Piute Valley." DEIS at xii. BLM The DEIs does not describe effects from the project on lands outside the project area, which is surrounded by the Piute-El Dorado ACEC, except for evaluating some visual impacts that would occur outside the project area. BLM suggests that it has no responsibility to consider impacts to the ACEC. DEIS at 1-10. However, although the lands in the project area are not managed as an exclusion area, all of the lands surrounding the project area within the ACEC remain an exclusion area for wind energy development.

The DEIS fails to consider that the RMP designated the Piute-El Dorado ACEC to

Establish areas of critical environmental concern specifically for management of desert tortoise within the Northeastern Mojave and Eastern Mojave recovery units identified in the *Tortoise Recovery Plan* .... Manage a sufficient quality and quantity of desert tortoise habitat, which in combination with tortoise habitat on other Federal, State and private land, will meet recovery plan criteria. Maintain functional corridors of habitat between areas of critical environmental concern to increase the chance of long-term persistence of desert tortoise populations within the recovery unit.

Las Vegas RMP Record of Decision ("ROD") at 3. The Piute-El Dorado ACEC is designated as a ROW avoidance area, except in designated corridors. *Id.* at 4, 19. There are no designated corridors within this ACEC. *Id.* at 19. The transmission line for the project would cross approximately a mile of the ACEC, with towers spaced every 500 feet. DEIS at 2-15, 3-53

The Piute-Eldorado ACEC was considered in the DEIS in Sections 1.4-Summary of Public Scoping and Issue Identification, 3.8-Land Use, and 4.8-Land Use Impacts. No activities would occur in the ACEC except as allowable under the BLM Las Vegas RMP. The ACEC would remain a ROW avoidance area. Refer to Chapter 3 for a description of the Region of Influence (ROI) for each resource.

(Figure 3.8-3). The DEIS therefore is incorrect that "the project area does not include lands managed as exclusion or avoidance areas." DEIS at 1-10. The 2005 amendment to the Las Vegas Resource Management Plan ("RMP") did not change the status of the ACEC as a ROW avoidance area.

Even the 2005 amendment maintains the policy excluding ACEC's from wind development:

> The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs, Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs). Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.

DEIS Appendix C, at A-2.

Based on the fact that the project will be constructed in the "keyhole" within the ACEC, the BLM apparently contends that it need not assess how project will affect the surrounding federal land. For example, the few times that the ACEC is mentioned, it is primarily to assert obliquely (and incorrectly) that the project area does not include lands managed as ROW exclusion or avoidance areas. *See, e.g.*, DEIS at 1-10; 3-50; 4-58. Similarly, the DEIS states that "[c]onstruction activities, laydown areas, or facilities would not affect recreational activities within the ACEC. Temporary decreases in camping, wildlife viewing, rock climbing and hiking opportunities within the project area due to construction activities and vehicle traffic would be minimal and short-term and limited to active construction sites and roads." DEIS at 4.11. However, the DEIS provides no support for these statements or conclusions, but again BLM is suggesting that the construction and operation of 87 wind turbines, each 428 feet high, whose noise can be heard up to several miles, will have "minimal" effect outside the immediate footprint of the project.

Simply because the project is not located on the public lands within the ACEC does not relieve the BLM from the obligation to assess the direct, indirect, and cumulative effects of the proposed action (i.e., construction and operation of the turbine sites and associated transmission lines and interconnection facility) on the surrounding lands. 40 C.F.R. § 1508.7. By applying for a ROW that crosses that ACEC, and places at least a dozen turbines within about 750 feet of the ACEC, and several dozen turbines within about 2,500 feet of the ACEC, and, Duke has put BLM in the position of having to assess the environmental consequences of the project on the federal public land surrounding the project site, and not only the project site itself. *Nat'l Forest Preservation Group v. Butz*, 485 F.2d 408, 411–12 (9th Cir. 1973). This requirement is consistent with FLPMA, which states that the ROW contain terms and conditions necessary to

(Figure 3.8-3). The DEIS therefore is incorrect that "the project area does not include lands managed as exclusion or avoidance areas." DEIS at 1-10. The 2005 amendment to the Las Vegas Resource Management Plan ("RMP") did not change the status of the ACEC as a ROW avoidance area.

Even the 2005 amendment maintains the policy excluding ACEC's from wind development:

> The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs, Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs). Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.

DEIS Appendix C, at A-2.

Based on the fact that the project will be constructed in the "keyhole" within the ACEC, the BLM apparently contends that it need not assess how project will affect the surrounding federal land. For example, the few times that the ACEC is mentioned, it is primarily to assert obliquely (and incorrectly) that the project area does not include lands managed as ROW exclusion or avoidance areas. *See, e.g.*, DEIS at 1-10; 3-50; 4-58. Similarly, the DEIS states that "[c]onstruction activities, laydown areas, or facilities would not affect recreational activities within the ACEC. Temporary decreases in camping, wildlife viewing, rock climbing and hiking opportunities within the project area due to construction activities and vehicle traffic would be minimal and short-term and limited to active construction sites and roads." DEIS at 4.11. However, the DEIS provides no support for these statements or conclusions, but again BLM is suggesting that the construction and operation of 87 wind turbines, each 428 feet high, whose noise can be heard up to several miles, will have "minimal" effect outside the immediate footprint of the project.

Simply because the project is not located on the public lands within the ACEC does not relieve the BLM from the obligation to assess the direct, indirect, and cumulative effects of the proposed action (i.e., construction and operation of the turbine sites and associated transmission lines and interconnection facility) on the surrounding lands. 40 C.F.R. § 1508.7. By applying for a ROW that crosses that ACEC, and places at least a dozen turbines within about 750 feet of the ACEC, and several dozen turbines within about 2,500 feet of the ACEC, and, Duke has put BLM in the position of having to assess the environmental consequences of the project on the federal public land surrounding the project site, and not only the project site itself. *Nat'l Forest Preservation Group v. Butz*, 485 F.2d 408, 411–12 (9th Cir. 1973). This requirement is consistent with FLPMA, which states that the ROW contain terms and conditions necessary to

No activities would occur in ACEC except as allowable under the BLM Las Vegas RMP. The ACEC will not be affected except as allowable under the BLM Las Vegas RMP.

"protect Federal property and economic interests," efficiently manage the lands that are subject to the ROW "or are adjacent thereto, and "otherwise protect the public interest" in the ROW lands or lands "adjacent thereto." 43 U.S.C. § 1765(b). But the DEIS does not disclose or evaluate the effects of the wind generation inside the project area on lands outside it, particularly not on critical habitat of desert tortoise located less than half a mile from dozens of turbines.

The DEIS, however, fails to include such terms and conditions that are protective of federal property and the associated public interest, or evaluate any alternatives that consider potential conditions. The DEIS contains none of the mandatory terms and conditions to "minimize damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment." *Id.* § 1765(a). The DEIS does not even hint at what conditions BLM might consider, which should be evaluated as separate alternatives. The DEIS recognizes that there will be significant adverse effects from project on scenic values, recreational values, and wildlife on federal lands. But the DEIS does not disclose and evaluate what terms and conditions will "minimize" such damage. And, the DEIS does not address the direct impacts to the ACEC of the construction and operation of the transmission line in a "ROW avoidance" area.

Protective measures are included in Section 2.6-Mitigation Measures, throughout Chapter 4.0-Environmental Consequences, Appendix C-BLM Wind Energy Development Program Policies and BMPs and Appendix D-Western Area Power Administration Construction Standards.

The DEIS fails to disclose how BLM has complied with its statutory obligations under Sections 504 and 504 of FLPMA. 43 U.S.C. §§ 1764–65. Nor has the DEIS demonstrated that any ROW would "prevent unnecessary or undue degradation" of the lands BLM manages, within the project site or in the surrounding ACEC. *Id.*. § 1732(b). Instead, the DEIS mentions only that the ROW fits into BLM's multiple-use mandate under FLPMA. DEIS at xi.

The EIS discloses the impacts to all the resources on BLM-managed land throughout Chapter 4.0-Environmental Consequences. This includes consideration of the Piute-Eldorado ACEC in the EIS in Sections 1.4-Summary of Public Scoping and Issue Identification, 3.8-Land Use, and 4.8-Land Use Impacts, and 4.10-Noise Impacts.

The DEIS does not describe how the project, and particularly the approximately one mile of transmission line that would cross the ACEC and the interconnection facility within the ACEC, would be in accordance with the Las Vegas RMP. Once an RMP is in place, FLPMA mandates that the BLM act "in accordance" with them. 43 U.S.C. § 1732(a).

The Piute-Eldorado ACEC was considered in the DEIS in Section 1.4- Summary of Public Scoping and Issue Identification, Section 3.8.2.4 under Special Designations, Section 4.8.2.2-under Special Designations, and Section 4.11.2.2-under Recreation. No activities would occur in ACEC except as allowable under the BLM Las Vegas RMP. The ACEC would remain a ROW avoidance area.

The Record of Decision for the Las Vegas RMP designates all ACECs, exclusive of designated corridors and with certain exceptions, as "right of way avoidance areas." Las Vegas RMP ROD at 19. The DEIS indicates that the interconnection facility comes within the exception for site type right-of-way exclusions within 0.50 miles of a Federal Aid Highway. DEIS at 3-50. However, the DEIS does not explain why Highway 164 (Cottonwood Cover Road) qualifies as a "Federal Aid Highway." Furthermore, the DEIS does not explain how it could approve the portion of the transmission line that runs for approximately a mile across the ACEC to the interconnection facility, with towers every 500 feet, when the RMP designates that ACEC as a "right of way avoidance area." Las Vegas RMP ROD at 19 (Management Direction RW-1-e). Because of the prohibition against right of way grants within ACECs, BLM cannot grant the ROW for the project consistent with the RMP. 43 U.S.C. § 1732(a).

For a map of Federal Aid Highways that included SR 164 see the following link:
http://www.nevadadot.com/uploadedFiles/NDOT/About_NDOT/NDOT_Divisions/Planning/Roadway_Systems/FCM_Clark.pdf

2. The DEIS does not demonstrate that ROW grants by BLM would comply with the Endangered Species Act.

Pursuant to FLPMA, BLM may only grant a ROW if it is "consistent with the provisions of [FLPMA] or any other applicable law." 43 U.S.C. § 1764(c). A ROW also must "do no

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

unnecessary damage to the environment." *Id.* § 1764(a). Under NEPA, BLM "*shall* prepare *draft* environmental impact statements *concurrently with and integrated with* environmental impact analyses and related surveys and studies required by the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.), the National Historic Preservation Act of 1966 (16 U.S.C. 470 et seq.), the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.), and other environmental review laws and executive orders." 40 C.F.R. § 1502.25(a) (emphases added). Accordingly, BLM's NEPA analysis in the DEIS must evaluate whether granting a ROW is consistent with other applicable law. BLM has an obligation under the Endangered Species Act to ensure that its actions will not jeopardize the continued existence of a listed species—the threatened desert tortoise—or result in the destruction or adverse modification to desert tortoise critical habitat. 16 U.S.C. § 1536(a)(2); *Sierra Club v. Marsh*, 816 F.2d 1376, 1385–86 (9th Cir. 1987).

Furthermore, Section 9 of the ESA prohibits any person from "taking" a threatened or endangered species. 16 U.S.C. § 1538(a)(1); *see also* 50 C.F.R. § 17.31. "Take" is defined broadly under the ESA and its regulations to include harassing, harming, wounding, killing, trapping, capturing, or collecting a protected species either directly or by degrading its habitat sufficiently to impair essential behavior patterns, or to attempt to engage in any such conduct. 16 U.S.C. § 1532(19). In USFWS's regulatory definition of take, the term "harass" is defined to mean "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering." 50 C.F.R. § 17.3. In addition, "harm" is defined as "an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering." *Id.*

The DEIS does not address whether the project—with or without conditions—could comply with the ESA. BLM must disclose and evaluate whether the grant of ROWs for the generation, transmission, and interconnection of this project on public lands would result in construction of a project that violates the Endangered Species Act. The only reference to compliance is that the project would implement terms and conditions of the USFWS's biological opinion, which "may include" several measures such as pre-construction surveys, desert tortoise fencing, and relocation of tortoises. DEIS at 2-43 to 2-44; 4-31 to 4-32. However, this does constitute an adequate disclosure of whether or not the project *will be* consistent with the ESA, as FLPMA requires prior to a grant of a ROW.

As described in more detail below, the project will result in take of desert tortoise and in the adverse modification of desert tortoise critical habitat from the off-project-area noise and habitat fragmentation effects caused by the construction and operation of the turbines. BLM has not disclosed these impacts, and therefore has not complied with its obligation—under FLPMA—to evaluate whether a ROW grant will be consistent with other "applicable law," namely the ESA. BLM must supplement its EIS to disclose and evaluate these effects in order to determine whether or not it can validly grant the ROWs.

SHPO will make a determination as to cultural resources classification and protection before the issuance of the Record of Decision.

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion). Section 4.4.5.3-Mitigation has been updated to include USFWS required mitigation The Biological Opinion includes a determination regarding the effects to the species as a result of the proposed project and a take limit.

.

For example, BLM must answer: how many tortoises will be killed, captured, harmed, harassed or otherwise "taken" by the construction and operation of the project? How many of these takes will occur on the generation site and transmission/interconnection ROWs? How much take of tortoises by impacts from noise and avoidance effects will take place on the public lands of the ACEC that surrounds the project site? How many tortoises will be killed, harmed, harassed, or otherwise taken in the vicinity of the project site due to increased vehicle traffic both during the construction and operation phases of the project? How does BLM plan to use its authority and obligations under FLPMA Sections 504 and 505 to ensure compliance with the ESA? The DEIS does not tell us. This represents a dramatic failure by the agency to disclose relevant factors to the public and obligates BLM to issue a supplemental DEIS that addresses these issues.

In addition, BLM must disclose and evaluate whether any proposed mitigation will be effective. The DEIS merely refers to mitigation that "may" occur, DEIS 2-43, 4-31, but does not describe what mitigation *will* occur or whether that mitigation will or will not be effective. This is inadequate to comply with NEPA's requirement of disclosures regarding mitigation. Because the effects of the project on ESA-listed wildlife, BLM's duties under the ESA obligate the agency to consider those effects in the DEIS and prevent or minimize those effects by denying a ROW or imposing restrictive conditions consistent with Congress's purpose in the ESA to afford listed species the highest of priorities in agencies' land use decisions.

3. The DEIS does not demonstrate compliance with other management obligations under various federal statutes, regulations and guidance.

As discussed further below, the project will have significant impacts to avian species, killing potentially hundreds of raptors, golden eagles, and other migratory birds protected by federal statute. The DEIS does not demonstrate that BLM can issue ROWs that are consistent with these statutory obligations. The DEIS does not show, for example, that BLM has complied with, or could authorize any ROW consistent with, the Migratory Bird Treaty Act ("MBTA"), the Bald & Golden Eagle Protection Act ("BGEPA"), or the Endangered Species Act ("ESA").

In particular, the DEIS does not demonstrate that BLM would comply with the special status species policy (BLM Manual 6840) if it approves a ROW for a generation and transmission project within desert tortoise habitat. Management of special status species (and indeed all rare species) on BLM lands should focus on ensuring long term survival and recovery in order to prevent the need for future listings. Nothing in the DEIS shows that the BLM took into consideration these critical management concerns. *See* BLM Manual 6840.2.C (Implementation) ("BLM shall manage Bureau sensitive species and their habitats to minimize or eliminate threats affecting the status of the species or to improve the condition of the species habitat, by . . . [e]nsuring that BLM activities affecting Bureau sensitive species are carried out in a way that is consistent with its objectives for managing those species and their habitats at the appropriate spatial scale . . . [and] [c]onsidering ecosystem management and the conservation of native biodiversity to reduce the likelihood that any native species will require Bureau sensitive species status").

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act. USFWS has determined the appropriate "take" limit for the proposed project (Appendix B-2: USFWS Biological Opinion). If the take limit was exceeded, project activites would cease and the BLM would reconsult with the USFWS.

The Biological Opinion includes the required mitigation for the proposed project (Refer to Appendix B-2: USFWS Biological Opinion). Section 4.4.5.3-Mitigation has been updated to reflect these requirements.

Impacts to species that are state or federally protected are addressed in Section 4.4-Biological Resources Impacts.

No permitting framework exists that allows a company to protect itself from liability resulting from take at wind facilities; however, the USFWS does not usually take action under the MBTA if good faith efforts have been made to minimize impacts. Searchlight Wind Energy has developed a BBCS (formerly referred as the ABPP) to minimize impacts to birds (Appendix B-4: Bird and Bat Conservation Strategy).

The decision if a take permit is being requested is between the FWS and Searchlight Wind LLC.

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

BLM has also not demonstrated in the DEIS that it has complied with BLM Instruction Memorandum 2010-077, LR 2000 Data Standards for Renewable Energy Cases (Mar. 16, 2010). Under IM 2010-077, BLM must collect detailed data on resource conflicts for "[e]lectric transmission rights-of-way cases that facilitate, support, or have capacity to distribute power from renewable energy projects." IM 2010-077, Appendix, *Revised Data Standards for Renewable Energy Cases*. BLM does not appear to have collected the required data for the transmission line and associated generation which the requested ROW will facilitate and support. Acknowledging this obligation and disclosing resource conflicts data in the DEIS is particularly important because it provides BLM with better information to evaluate potential alternatives, as discussed in the following section.

The DEIS also does not reflect that BLM and USFWS have fulfilled their obligations under the October 2009 Memorandum of Understanding ("MOU") regarding federal agency review of electric transmission facilities on federal lands. Under the MOU, "[c]onsistent with its principal trust responsibility to protect and conserve migratory birds, threatened and endangered species, certain marine mammals, and interjurisdictional fish, the USFWS will consult with applicants for transmission projects potentially affecting any of these resources." There is no evidence in the DEIS that the USFWS has fulfilled these obligations, or that BLM has sought this information. The Searchlight project includes over eight miles of transmission line, including transmission lines on a protected ACEC. BLM should obtain information from the federal wildlife expert agency and include the information in a supplemental DEIS disclosing to the public its preliminary determination regarding the effects of the transmission line and generation project on desert tortoise, golden eagles, migratory birds and other sensitive species.

Extensive coordination was conducted between the BLM, USFWS, and NDOW regarding wildlife in the proposed project area. See Section 5.0-Consultation and Coordination and for an updated coordination/consultation history.

The DEIS has not demonstrated that the project would comply with the Las Vegas RMP. The 2005 Wind Energy Development Programmatic EIS ("PEIS") the Las Vegas RMP, but did not alter any of the land use designations and did not consider site-specific projects, such as the Searchlight Wind Project. Because the PEIS (and the resulting 2005 amendment to the RMP) do not consider site-specific impacts, it cannot satisfy BLM's obligations under NEPA or under FLPMA to take actions that are in accordance with the RMP.

Refer to Section 1.5-Land Use Plan Conformance Determintation for a discussion of the Programmatic EIS. This EIS considers site-specific impacts for the Searchlight Wind Energy Project.

BLM also must consider whether the project is consistent with the most recent available science and guidance regarding wind energy development effects on wildlife and related to two of the species most likely to be adversely affected by the project, desert tortoise and golden eagles. BLM has not demonstrated that the project would contribute to the recovery of the desert tortoise as discussed in USFWS's May 2011 Revised Recovery Plan for the Mojave Population of the Desert Tortoise. Indeed, the DEIS does not even reference this document. DEIS at 6-10. A copy is enclosed on the attached CD-ROM for BLM to consider in further environmental review of this project.

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

BLM also has not evaluated whether this project is consistent with the most recent USFWS guidance regarding golden eagles in the January 2011 Draft Eagle Conservation Plan Guidance. A copy is enclosed on the attached CD-ROM for BLM to consider in developing protection for eagles that will be affected by this project or in determining that the project cannot proceed. Based on the USFWS's analysis of populations across the nation, there is no safe

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as the Avian and Bat Protection Plan [ABPP]) has been developed for the proposed project utilizing the recommendations within the USFWS's March 2012 Land Based Wind Energy Guidelines (Refer to Appendix B-4: Bird and Bat Conservation Strategy). The decision if a take permit is being requested is between the USFWS and Searchlight Wind.

allowable take level for golden eagles. Therefore, USFWS currently authorizes take permits only under the philosophy that "no net loss" may be attributable to such take. However, take is unavoidable on the project site. Given the growing concern for these majestic birds, especially related to mortalities associated with wind turbines and expanding transmission infrastructure, any development decisions that will impact golden eagles must be placed within a regional population context much larger than the area immediately surrounding any proposed generation and transmission project.

Similarly, BLM has not demonstrated that the project would be consistent and has complied with BLM Instruction Memorandum 2010-156, Golden Eagle National Environmental Policy Act and Avian Protection Plan Guidance for Renewable Energy (Sept. 30, 2011). IM 2010-156 requires BLM to coordinate with USFWS early and throughout the planning process, and conduct a cumulative effects analysis of impacts to golden eagles based on the detected presence of golden eagles at the project site and consequent potential direct effects to the birds. The DEIS does not comply with the guidance in IM 2010-156 and provides no explanation for why it does not.

BLM-IM-2010-156 is expired.

In addition, in the course of preparing a supplemental DEIS, BLM must consider whether development of this project will comply with the USFWS's March 2012 Land-Based Wind Energy Guidelines. A copy of this document is provided on the attached CD-ROM. These guidelines contain the most recent guidance from USFWS to minimize impacts to wildlife from wind energy facilities, and must be evaluated to comply with BLM's obligation to minimize impacts from ROW grants on public lands as well as comply with BLM's obligations under NEPA and other statutes. For example, the guidelines sensibly provide that "the lead federal action agency should make its decision based in part on a developer's commitment to mitigate adverse environmental impacts" and provide information to the public about mitigation. Wind Guidelines at 53. The DEIS does not do this because all of the mitigation plans have not yet been developed and therefore cannot be meaningfully addressed.

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as the Avian and Bat Protection Plan [ABPP]) has been developed for the proposed project utilizing the recommendations within the USFWS's March 2012 Land Based Wind Energy Guidelines (Refer to Appendix B-4: Bird and Bat Conservation Strategy).

C. The DEIS fails to consider reasonable alternatives.

"The purpose of NEPA is to require disclosure of relevant environmental considerations that were given a 'hard look' by the agency, and thereby to permit informed public comment on proposed action and any choices or alternatives that might be pursued with less environmental harm." *Te-Moak Tribe of W. Shoshone of Nev. v. U.S. Dep't of Interior*, 608 F.3d 592, 601 (9th Cir. 2010) (quoting *Lands Council v. Powell*, 395 F.3d 1019, 1027 (9th Cir. 2005)); *see also* 42 U.S.C. § 4332(E) (requiring agencies to "study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources"). Agencies are required to consider alternatives in an EIS and must give full and meaningful consideration to all reasonable alternatives. *Te-Moak Tribe*, 608 F.3d at 601; *see also* 40 C.F.R. §§ 1502.14. "The existence of a viable but unexamined alternative renders an environmental impact statement inadequate." *Te-Moak Tribe*, 608 F.3d at 601 (citing *Idaho Conservation League v. Mumma*, 956 F.2d 1508, 1519 (9th Cir. 1992) (quoting *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)).

The BLM developed a purpose and need statement and considered a range of reasonable alternatives consistent with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instruction Memorandum 2011-059. The two action alternatives satisfy the purpose and need because they fulfill BLM's obligation to consider the ROW applications under FLPMA and NEPA and because they are consistent with other applicable federal mandates and renewable energy policies and goals.

Because "the EIS is intended to be used to guide decisionmaking, the alternatives analysis is naturally 'the heart of the environmental impact statement.'" *ONDA v. BLM*, 625 F.3d at 1100 (quoting 40 C.F.R. § 1502.14). In the alternatives section, the agency must "[r]igorously explore and objectively evaluate all reasonable alternatives." C.F.R. § 1502.14. When selecting alternatives, an agency may *consider* an applicant's desires, but is not by any means bound or limited by them. It is not appropriate for an agency to rely on the "self-serving statements of the project applicants." *S. Utah Wilderness Alliance v. Norton*, 237 F. Supp. 2d 48, 53 (D.D.C. 2002). Instead, the action agency must "to the fullest extent possible . . . study, develop and describe appropriate alternatives to recommended courses of action in any proposal which includes unresolved conflicts concerning alternative uses of available resources." *Id.* at 54 (citing 42 U.S.C. § 4332(2)(E)).

Moreover, "[o]ther factors [other than the applicant's desires] to be developed during the scoping process—comments received from the public, other government agencies and institutions, and development of the agency's own environmental data—should certainly be incorporated into the decision of which alternatives to seriously evaluate in the EIS." CEQ, Guidance Regarding NEPA Regulations, 48 Fed. Reg. 34,263, 34,267 (July 28, 1983). "In determining the scope of alternatives to be considered, the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant." CEQ, Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations at Question 2a (available at http://ceq.hss.doe.gov/nepa/regs/40/1-10.HTM#1).

The DEIS, which appears to be almost entirely prepared by the applicants' consultants, presents three alternatives—of which the two action alternatives are virtually identical and which include no disclosure of potential conditions BLM could impose. By failing to develop alternatives that would reduce the number of turbines to decrease impacts to the human and natural environment, other reasonable alternatives, or *any* alternatives which incorporate ROW conditions that would be protective of the environment and necessary to comply with BLM's statutory obligations, the DEIS violates NEPA.

1. BLM must consider alternatives that impose more protective conditions on the project.

The DEIS acknowledges that BLM has the authority and obligation to impose conditions on the ROWs that will satisfy BLM's obligations under substantive laws. However, there is no discussion in the DEIS of alternative conditions. Without a presentation of detailed information about potential conditions, the public is left entirely in the dark about the actual action BLM is proposing to take. Part of this failure in the DEIS to discuss alternative conditions is due to the paucity of the DEIS's analysis of the impacts to desert tortoises and the misrepresentation of impacts to other resources described in more detail below. Dozens of turbines on the project site would be placed within 2,500 feet of designated critical habitat for desert tortoise within the ACEC or within a similar distance from the only access road to Cottonwood Cove in the Lake

NewFields in an independent third party contractor supporting the BLM with preparation of this NEPA document.

Mead NRA, and as close as 1,345 feet from a residential home. BLM has not evaluated any alternative that, for example, would impose a condition on the ROW grant that prohibits construction of turbines within a mile of designated tortoise habitat or public roads or homes to actually "minimize" impacts to the human and natural environment.

The DEIS also fails to discuss any potential conditions that would flow from the USFWS's Wind Turbine Guidelines Advisory Committee Recommendations, issued in March 2010 (*available at* http://www.fws.gov/habitatconservation/windpower/Wind_Turbine_Guidelines_Advisory_Committee_Recommendations_Secretary.pdf and included on the enclosed CD-ROM). BLM has the authority to impose conditions on the ROW that would require any energy generation connected to the ROW to comply with the recommendations in these Guidelines. Please explain why the DEIS does not consider ROW conditions that would comply with these Guidelines. Please discuss whether the recommendations contained in these Guidelines should be included as binding conditions in the ROW grant.

Refer to Section 5.2.3-Coordination on the BBCS and Appendix B-4: Bird and Bat Conservation Strategy (formerly referred to as the Avian and Bat Protection Plan [ABPP]), which have been added to the EIS.

The DEIS contains no definition of the "Project Area," but rather only a map. DEIS at 1-2, 1-5 (Figure 1-3). The BLM needs to spell out clearly what it means by the "project area" *See Friends of Yosemite Valley v. Norton*, 348 F.3d 789, 800 (9th Cir. 2003) ("[A] reviewing court [must] focus upon a proposal's parameters as the agency defines them" (alteration in original omitted) (quoting *Block*, 690 F.2d at 761)). The DEIS fails to discuss effects on lands and resources that would be affected by noise and visual effects from the turbines, such as tortoises and bighorn sheep which inhabit the surrounding ACEC. The DEIS includes no discussion of reasonable alternatives to minimize harm from generation and transmission facilities to such resources, even though they are clearly affected by the project. Here, the agency has refused to even provide a definition of the scope of the action, but appears to have considered no impacts (besides a few visual impacts) that would spill over onto public lands outside of the boundary of the project site drawn in Figure 1-3. BLM must more clearly define the scope of the action, and consider *all* areas that are affected by operation of the turbines, include areas outside of the boundary of the project site.

The project area is described in Section 1.3-Background and delineated in Figure 1.3-Proposed Project Area Map.

Noise and visual effects on land resources are discussed in Section 4.10-Noise Impacts and Section 4.9-Visual Impacts, respectively. Impacts to bighorn sheep and desert tortoise are discussed in Chapter 4.4.5-Special Status Wildlife Species. Section 4.4.4 Wildlife has been updated to include potential noise impacts to wildlife. Chapter 3.0-Affected Environment discusses the conditions beyond the proposed project area to include analysis of off-site and cumulative impacts discussed throughout Chapter 4.0-Environmental Consequences.

Similarly, the DEIS fails to consider any alternative conditions on the ROWs that would require the project constructed without turbines which detrimentally affect the scenic character and environmental and human environment of the Searchlight desert and mountains surrounding the project site—by imposing conditions mandating the maximum number of turbines, the configuration of the turbines, requiring minimum setbacks, setting maximum turbine heights, or mandating different locations. In addition, although the idea of an eventual decommissioning of the turbines and transmission line is mentioned in passing (*see, e.g.* DEIS at xi), there is no evaluation of whether BLM should require a bond as a condition of a ROW grant to ensure that the project is, in fact, decommissioned, if it is ever approved and built.

Potential impacts resulting from the proposed project and alternatives including the No Action alternative are analyzed in Chapter 4- Environmental Consequences. The BLM will require a bond for decommissioning of the project and this will be a stipulation of the ROW grant.

Instead, the DEIS analyzes what boils down to only two alternatives: 1) construction of industrial-scale wind energy generation and transmission project with either 87 or 96 turbines within the project site or 2) no action. The two "action" alternatives are virtually identical with only a few megawatts of generation capacity separating them. Almost every discussion of effects

Comment noted.

concludes with the statement that "the type, intensity, and duration of the effects would be similar under either action alternative" or other acknowledgement that effects under both action alternatives would be "similar." *E.g.* DEIS at 4-31, 4-78. In addition, the DEIS discloses that, under the 87 turbine alternative, about "152 acres of native vegetation would be permanently removed, 8 acres *more* than under the 96 WTG Layout Alternative." DEIS at 4-33 (emphasis added). No alternative is included that would minimize impacts to the environment, *i.e.* there is no "environmentally preferred" alternative in this DEIS.

Furthermore, it is clear that the two supposedly "distinct" action alternatives are a fiction generated solely as pretense for conducting a genuine alternatives analysis. BLM released the DEIS for public comment on January 20, 2012. 77 Fed. Reg. 2,999 (Jan. 20, 2012). Yet, in March 2011—10 months earlier—Duke already had filed with BLM its "Plan of Development (POD)—Revision 4." BLM has this document, presumably, but a copy is enclosed on the CD-ROM. The Revised POD states that "[t]he *proposed* project consists of the construction of up to 87 2.3 megawatt (MW) wind turbine generators that will provide up to 200 MW of electricity." Revised POD at 1-1 (emphasis added). Nowhere in the March 2011 Revised POD is there any reference to a 96-turbine "proposed action." Nearly a year before BLM issued the DEIS, Duke already was proposing an 87-turbine project, with the same configuration that became the "preferred alternative" in the DEIS. *Compare* Revised POD at 1-5 *with* DEIS at 2-5. The 96-tubine "alternative" presented as the "proposed action" had ceased to be any such thing long before BLM issued the DEIS. This underscores that the alleged proposed action and the preferred alternative are indistinguishable.

Shockingly, BLM only lists two "other" alternatives, both generation alternatives, that purportedly were considered but not analyzed in detail—a 140-turbine layout, and a 161-turbine layout, on the same project site—and three alternative sites for the interconnection. DEIS at 2-7 to 2-12. This is despite receiving 41 comments regarding project alternatives during the public scoping process. DEIS at 5-2. BLM recognized that, during scoping, "[t]he topics receiving the most comments were biological resources, project alternatives, socioeconomics, and visual resources." DEIS at xiii. BLM even notes in the Public Scoping Summary Report that "Project alternative suggestions (11 percent of total comments) were also relatively high. Sixty-six percent of comments in this category included suggestions on alternative locations, while 29 percent of comments included questions about other forms of renewable energy." Scoping Summary Report at 3-4. Yet the scoping summary report includes only seven bullet points purporting to be representative of the 41 comments received on this issue. Scoping Summary Report at 3-6.

The options presented in the DEIS itself only advance the applicant's goals, rather than the public's interest, to the exclusion of other reasonable alternatives. The DEIS is fatally flawed in its failure to consider an adequate range of reasonable alternatives. *See Muckleshoot Indian Tribe v. U.S. Forest Serv.*, 177 F.3d 800, 913 (9th Cir. 1999) (agency failed to consider an adequate range of alternatives when an EIS considered only a no action alternative along with two "virtually identical" action alternatives on the same lands).

The initial Plan of Development (POD) for the proposed project was submitted in January 2008 along with the right-of-way application. The POD is a living document that continues to be refined during BLM's evaluation of the application. Development of the POD is an iterative process. As new information on project design, project alternatives, and/or or project constraints becomes known, the POD is revised. The POD revisions to reduce the original number of 161 turbines reflect formal and informal comments, along with engineering constraints.

Comment noted.

The BLM developed its purpose and need statement and considered a range of reasonable alternatives consistent with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instruction Memorandum 2011-059. The purpose and need statement appropriately integrates Congress's goal that the Secretary of the Interior should seek to approve renewable energy projects on the public lands; direction from Secretarial Order 3285A1 (March 11, 2009, amended February 22, 2010), which establishes the development of environmentally responsible renewable energy as a priority for the Department of the Interior; and the BLM's responsibility under FLPMA to manage the public lands for multiple use, taking into account the long-term needs of future generations for renewable and non-renewable resources. The two action alternatives satisfy the purpose and need in that they fulfill BLM's obligation to consider the ROW applications under FLPMA and NEPA, and are consistent with other applicable federal mandates and renewable energy policies and goals. Though the BLM has considered Searchlight Wind Energy's objective for the project, which is presented in Section 1.3-Background, Searchlight Wind Energy's objective is not the BLM's purpose and need for the project.

The DEIS does not consider imposing conditions that would require dramatically smaller, alternative configurations (with fewer wind turbines and/or in different locations) for the project sites. Rather, the DEIS seems to assume that the site must be built to at least a 200 MW capacity. *See, e.g.*, DEIS at xii, 1-6. There are no financial data or projections provided to support any claim that this threshold is anything but arbitrary, or that a minimum number of turbines must be built to be financially feasible. Please disclose and evaluate what the threshold number of turbines would be for this project to be financially feasible so that the public and the decisionmakers can understand and comment on whether such a project is justified when its major purpose appears to be generating revenues for a large utility rather than complying with BLM's management responsibilities for the public lands.

BLM considered a reasonable range of alternatives consistent with NEPA and BLM policies and procedures. The two action alternatives satisfy the purpose and need in that they fulfill BLM's obligation to consider the ROW application, meet federal renewable energy mandates, and respond to impacts identified in the NEPA analysis. The Applicant has provided BLM with an economic determination that any project generating less than 200 MWs/and or less than 87 turbines is uneconomic due primarily to transmission line costs.

In addition, BLM must prepare and circulate for public comment a supplemental DEIS that considers the reasonable alternatives below, all of which were proposed to BLM in some form or other during the public scoping process and which BLM has heretofore ignored.

2. BLM must consider a distributed solar generation alternative.

BLM does not consider other potential renewable energy sources in the DEIS. A dismissal of renewable energy sources other than wind energy, such as solar power or distributed generation, does not comport with the agency's stated goal of acting consistently with their environmental and social responsibilities.

The BLM will not typically analyze an alternative for a different technology when a right-of-way application is submitted for a specific technology (e.g., evaluate a photovoltaic alternative for a concentrated solar power application) because such an alternative does not respond to the BLM's purpose and need to consider an application for the authorized use of public lands for a specific renewable energy technology.

Duke Energy primarily produces electricity in the United States from coal-, natural gas-, oil-, and nuclear-fired power plants. It also has begun to diversify into renewable generation sources through investment in hydropower and the Davidson County Solar Farm in North Carolina; it also owns the largest solar energy "farm" in Texas. Over the past three years, Duke also has invested in one of the nation's first and largest distributed solar generation projects, investing over $40 million to generate approximately 10 MW of electricity from distributed generation at over 19 micro-generation sites atop commercial and residential buildings. Duke Energy to Build 'Mini' Solar Power Plants, Industry Week (May 8, 2009) (http://www.industryweek.com/articles/duke_energy_to_build_mini_solar_power_plants_19105.aspx?SectionID=25); *see also* Exhibit 5 (page from Duke Energy website describing distributed generation project).

Duke is not a wind energy company, but it has expertise in the installation and operation of distributed solar generation technology. Las Vegas, Henderson, and Searchlight, Nevada are among the sunniest places in the United States, with Las Vegas experiencing over 85% clear skies per year. The Mojave Desert (which Las Vegas sits at the heart of) has the highest density of solar radiation in all of North America. World's Sunniest Regions: Power Houses for Solar Technology, Renewable Power News (Feb. 11, 2012) (http://www.renewablepowernews.com/archives/2941), Exhibit 6. The City of Las Vegas—not counting surrounding areas and not including other population centers in Clark County where platforms for distributed generation exist—covers 135 square miles, nearly five times the size of the project area of the Searchlight Wind Project. Given the poor economic conditions in Nevada and in the Las Vegas particularly over the past several years, the prospect of leasing roof space

for installation of solar panels for a distributed generation project would be welcome to many commercial and residential property owners. Indeed, Las Vegas already has over 10,000 KW of installed commercial solar photovoltaic generation at distributed sites with no reported problems. John Farrell, The Political and Technical Advantages of Distributed Generation, Energy Self-Reliant States (July 6, 2011) at 3, attached as Exhibit 7.

Given Duke's expertise in distributed solar generation, the nearly-perfect weather conditions for generating reliable electricity from solar power, the proximity of an enormous metropolitan area with ample space for installation of distributed solar power technology, and given the marginal winds at the Searchlight project site, BLM must evaluate a distributed solar generation alternative that would achieve Duke's objective of generating 200 MW of renewable power—and leaving inviolate the desert and mountains east of Searchlight. Such a project is feasible in the very same county in which Duke proposes to build the marginal wind facility.

Distributed solar generation is a reasonable alternative to the construction of this wind facility. The circumstances here present a unique opportunity for the BLM and the Secretary of the Interior to promote the shift of production of electricity from industrial-scale generation facilities located dozens or even hundreds of miles from where the energy would be used to distributed generation located where there needs to be no loss of energy due to long-distance transmission. By evaluating a distributed solar generation alternative, BLM has an opportunity to evaluate the true potential trade

3. BLM must consider a private lands alternative and a brownfields alternative.

The supplemental DEIS also should consider alternative locations for industrial-scale renewable energy generation that would produce the desired 200 MW other than the sites leased or proposed to be leased by Duke. Under NEPA, the EIS may even have to look at alternatives over which the applicant has no control. *NRDC v. Morton*, 458 F.2d 827, 835 (D.C. Cir. 1972); *Nat'l Wildlife Fed'n v. NMFS*, 235 F. Supp. 2d 1143 (W.D. Wash. 2002). It is irrelevant whether an applicant already owns alternative sites for the purposes of NEPA review: "The fact that this applicant does not now own an alternative site is only marginally relevant (if it is relevant at all) to whether feasible alternatives exist to the applicant's proposal." *Van Abbema v. Fornell*, 807 F.2d 633, 638 (7th Cir. 1986). As stated in the *Van Abbema* case, other alternatives for a project cannot be eliminated as non-feasible simply because the applicant does not now own or lease the site where an alternative location may exist. And, as the NEPA regulations clearly provide, the agency must "[i]nclude reasonable alternatives not within the jurisdiction" of the BLM. 40 C.F.R. § 1502.14(c).

The DEIS fails to consider whether alternative locations could provide comparable energy output with less damage to the human and natural environment. Thousands of wind turbines have been built throughout the nation—on public and private lands—in recent years which pose far fewer resource impacts than the Searchlight site. In addition, there are millions of

Wind Energy facilities must be located where wind resources are available and cannot be limited to "brownfield" sites. The BLM will not typically analyze a non-Federal land alternative for a right-of-way application on public lands because such an alternative does not respond to the BLM's purpose and need to consider an application for the authorized use of public lands for renewable energy development.

acres of contaminated lands—"brownfields"—in the United States.[3] Serious potential exists for installing new renewable power generation and the associated transmission, such as that proposed in the Searchlight Wind Project, on such lands, either as large-scale projects or as distributed smaller-scale wind or solar generation installations.

The analysis of the alternatives to the project should assess the potential to relocate all or part of the project on already degraded or contaminated lands. Doing so will increase the net public benefits of the project, by reducing the amount of undeveloped public and private lands that are degraded. A supplemental DEIS should include an analysis of the relative benefits of siting the proposed energy generation on brownfields and other degraded lands, both public and private. The analysis should examine the net public benefits of siting on these lands relative to siting on undeveloped lands, especially undeveloped public lands which may be more important for the climate change mitigation properties, the provision of recreation opportunities, their role in local economies and their provision of passive use and other non-market values.

4. BLM must consider a lower tortoise density site alternative.

The DEIS improperly fails to address any alternative that would avoid or reduce impacts to the desert tortoise. It is increasingly difficult to find the sort of intact, high-quality desert tortoise habitat that can mitigate the effects of the over 6,350 MW of energy production projects already approved or pending in the species's habitat range. Therefore, avoiding impacts to high-quality, essential habitat and maintaining the largest possible areas of intact, high-quality habitat is critical to the survival and recovery of the desert tortoise. BLM's failure to provide baseline information about the tortoise and information about the cumulative effects on the tortoise from the current spate of energy development in its range has led the agency to not analyze any alternative that would avoid or reduce impacts to the tortoise. A valid EIS must address the impact of this project for the survival and recovery of desert tortoise in the Eastern Mojave Recovery Unit.

Due to the controversy associated with desert tortoise disturbance, BLM must consider an alternative away from the proposed project site and development on a site that would not have such an impact to the desert tortoise. Impacts to the (at least) 122 tortoise on the project site and in the surrounding critical habitat in the ACEC will be unacceptable for a species under so much other pressure in its range. Recent studies (detailed below) indicate that tortoise mortality from efforts to translocate tortoises off of a construction site can reach 50%. Studies of noise effects on wildlife also show that the project alternatives would harm tortoises in their critical habitat in the surrounding ACEC.

In addition, BLM must consider an alternative at the project site that complies with its obligations to minimize impacts to the desert tortoise. BLM should consider a turbine

[3] Powerpoint: Land-Based Initiatives and Climate Change. SRA International. EPA Land Revitalization Staff Office. June, 2007. http://www.authorstream.com/Presentation/Margherita-45877-NARUC-Pres-July-15-Land-Based-Initiatives-Climate-ChangeJune-2007-Opportunities-GHG-Education-ppt-powerpoint/

BLM considered a range of reasonable alternatives consistent with NEPA and BLM policies and procedures. The two action alternatives satisfy the purpose and need in that they fulfill BLM's obligation to consider the ROW application, meet federal renewable energy mandates, and respond to impacts identified in the NEPA analysis.

configuration that moves all turbines at least one mile back from designated tortoise critical habitat to prevent turbine noise from adversely modifying critical habitat and taking tortoises outside the project site. This alternative also should eliminate turbines (and associated construction effects) from the areas of the project site where tortoises are concentrated, based on identification of live tortoises or carcasses during the field survey: turbines 12–26, 27–32, 60–67, and 74–78 in the 87 turbine configuration (DEIS at 2-5, Desert Tortoise Inventory Survey at 6). This alternative should be combined with conditions to protect remaining tortoise on the site during all phases of the project's construction and operation. This would result in a turbine configuration capable of generating approximately 50–60 MW of power, a very viable project that could be combined with other means—such as distributed solar generation—to achieve Duke's overall power generation goal while minimizing harm to the tortoise and the surrounding environment.

5. BLM must consider a conservation alternative.

No conservation alternatives were considered to eliminate the stated "need" for the 200-220 MW of installed capacity that the project would represent. Conservation alternatives, such as demand response technologies, also should have been included in order to meet BLM's goals of promoting their environmental and social responsibilities. The DEIS fails to comply with this requirement, because it fails to consider the possibility of delaying the development of wind energy until a later date, perhaps at a time when the energy grid will be more equipped to handle the addition of new wind energy sources.

The above alternatives were not considered at all because the applicants' "objective" of developing a 200-MW industrial wind energy generation facility dictated the results of this DEIS. The DEIS violates BLM's duties to consider all reasonable alternatives.

BLM considered a range of reasonable alternatives consistent with NEPA and BLM policies and procedures. The two action alternatives satisfy the purpose and need in that they fulfill BLM's obligation to consider the ROW application, meet federal renewable energy mandates, and respond to impacts identified in the NEPA analysis.

6. Additional comments regarding proposed project features.

In the process of evaluating additional reasonable alternatives, please also update the existing discussion of the 87- and 96-turbine alternatives to disclose and analyze the following issues, and discuss them in context of any additional alternatives that involve a smaller project alternative on the same site:

DEIS at 2-2 and 2-3: The DEIS states that it is not actually providing accurate information for the public to review because "exact locations of depicted proposed [turbines], roads, power lines, and other facility-related construction elements would vary based on environmental, engineering, meteorological, and/or permit requirements." Thus the exact footprint of impacts for each turbine has not been determined yet. As a consequence of this imprecision, Duke and BLM have not yet conducted geotesting for each turbine, and it is not possible to assess how much blasting or grading will be needed for each turbine or how much concrete, water, or other materials will be needed for stabilizing the turbines.

Text in Section 2.1-Proposed Action and Alternatives has been revised to clarify that placement of project components could vary slightly; however, the acreage of disturbance and associated impacts have been disclosed to the best extent possible. Retaining some flexibility allows for a possible non-substantive shift in project facilities to avoid unanticipated engineering challenges or environmental considerations. For example, minor road alignment may occur in order to avoid a cultural resources site.

This imprecision compromises the DEIS's discussion of alternatives, and the baseline assumptions of the NEPA analysis. Without accurate information about where turbines would be

placed, the public is left having to guess and comment on a proposal that may not, in fact, reflect what is being proposed or what would be built. The description of locations is not sufficiently precise to allow the public to comment on what the developer is actually proposing, because the effects on the environment can be significantly different depending on whether the low or high range of turbines actually is developed, and which strings or turbine site locations may, or may not be, used.

DEIS at 2-14: Why do any of the roads have to be 36 feet wide? This is not explained. The existing paved Cottonwood Cove Road is only 24 feet wide. Please consider conditions that would limit the size of roads to the existing width of the principle road through the project site. Roads double that width would cause unnecessary destruction of even more land than necessary and do not satisfy BLM's obligation to minimize impacts and avoid unnecessary and undue degradation of the public lands.

DEIS at 2-15: Why are project features located so close to Cottonwood Cove Road? The substation and laydown area should be set back a greater distance from Cottonwood Cove Road. The road accesses a National Recreation Area and passes through an Area of Critical Environmental Concern: this is not an industrial park, and residents and tourists do not travel to Cottonwood Cove within the Lake Mead NRA to see industrial development.

DEIS at 2-17: The DEIS states that "[p]ortable water supplies" would be available at the building. Is this a typographical error, and should it be "potable water supplies"? If it is "portable," how large are the storage tanks? Where will the "portable" supply be replenished from?

Also, the laydown area immediately adjacent to Cottonwood Cove Road should not be permanent. Please clarify whether the project contemplates a permanent laydown area. If a permanent laydown area is contemplated, BLM should evaluate alternative locations. To minimize impacts, the laydown area should be southeast of Searchlight in the southern portion of the project site, near turbines 68 and 69 ("preferred alternative") and adjacent to the substation there described at DEIS 2-15. In addition, please explain why the laydown area needs to be so large?

DEIS at 2-18: BLM must provide a diagram or drawing that visually represents the sentence: "Equipment clearance would require a minimum inside radius of 148 feet at all turns …" Does this mean that all turns in the roads would have a width of 148 feet? If so, BLM must disclose how the upgrades to the roads will look when completed. Also, how many turnouts with dimensions of 16' x 210' will be built? Was this area calculated into the acreage to be permanently altered (destroyed) by the project construction? Where will the "licensed offsite private source" of fill or road base be? How many miles will it be transported? Has the carbon dioxide and other greenhouse gas emissions resulting from many trips hauling the aggregate been calculated and incorporated into project documents? If not, BLM should disclose this figure as part of its overall calculation of the effects of this project on climate change.

Refer to Section 2.3.1-General Features of the Proposed Project, under the subheading Roads. Cottonwood cove road would not be widened.

Comment noted.

Typographical error corrected. Refer to Section 4.3-Water Resources Impacts for a description of how water would be delivered to the site and stored. Section 4.3-Water Resources Impacts has been revised to clarify that the Applicant will coordinate with the Las Vegas Valley Water District to support the water needs for the project. If sufficient resources are not available, the Applicant will procure water from local willing sellers.

As stated in the EIS in Section 2.3.2-Construction, the laydown area near the north substation might be permanent and could be used for extra storage and spare parts during the life of the project. Laydown areas need to be large enough to store components, allow for delivery traffic, and pre-assembly of WTGs and other components. Additionally, this is where the mobile concrete batch plant would be located.

Figures 2-1-96 WTG Layout Alternative, and 2-2-87 WTG Layout Alternative, illustrate the areas where existing roads would be widened and upgraded. The road widths would range between 16 and 36 feet and as described in Section 2.3.1-General Features of the Proposed Project. This section has been updated to explain turning radius (Refer to Figure 2.3-2. Turning Radius Example).

The licensed offsite private source has not been identified. For purposes of the analysis, it was assumed that the materials would be located within a 48-mile radius. Construction emissions include 96 mile round trip for trucks to haul required construction materials to the site. See Table 4.6-1. Criteria Air Pollution Emissions (Tons/Year) Over the 8 to 12 Month Proposed Project Construction Duration of the 96 WTG Alternative and Table 4.6-2. Criteria Air Pollutant Emissions (Tons/Year) During the Proposed Project O&M Duration of the 96 WTG Alternatives.

How will the area be "re-vegetated"? The DEIS provides no details of this proposed mitigation, and whether or not it would be effective. When disturbed areas along nearby route US 95 were "re-vegetated" after construction activity, fully ninety percent (90%) of the transplanted plants died. Please describe in detail what the proposed re-vegetation will involve, and whether or not it will actually result in a vegetated condition after construction that is similar to what currently exists.

DEIS at 2-21: Have any geotechnical investigations been done thus far? The possibility exists that the granitic bedrock may be too difficult to excavate or blast, and adequate foundations would be too costly to construct. BLM should disclose this information to evaluate whether the DEIS's characterization of the impacts from construction is accurate.

DEIS at 2-25: What "existing private roads" would be used for transporting materials and equipment? Have the owners of the private roads been notified of Duke's intention to use the private roads? How will people who own and use these roads be compensated?

DEIS at 2-27: Are BLM and Duke aware that the existing Cottonwood Cove Road, from the intersection with US 95 to the east end of the project, is only 24 feet wide? That road also is not designed for the weight of the loads anticipated with this project. Will the applicant widen and improve the road BEFORE construction begins, so the road can accommodate the large, heavy loads? This is not disclosed in the DEIS, and must be for the public to understand the potential impacts from the project. And, if so, does Duke plan to return the road to pre-construction width and design? Experience with construction of industrial wind energy projects across the country discloses that the weight of the trucks bearing the turbines and construction equipment can cause serious damage to rural roads. Exhibit 8. The gross weight of trucks carrying turbines and tower sections can be up to 232,000 lbs. *Id.* This likely far exceeds the designed capacities for the roads that would be used to develop the project. BLM should disclose the designed load capacity of Cottonwood Cove Road, US 95, and other roads that would be used to access the project site, and evaluate the extent to which damage to roads in the area will result from the project and who will bear those costs.

DEIS at 2-28: Where will the 250-300 vehicles used by the workmen be parked while they work?

DEIS at 2-28: The area presently has dark night skies. The construction of the turbines with flashing lights would destroy the rural environment. According to the DEIS, each turbine would have two lights, which flash day and night. That would be a total of 174 to 192 flashing lights in the previously dark sky. While the document states it is "anticipated" that not every turbine would be lighted, there is no guarantee that this would be the case. BLM must disclose accurately what the actual scope of lighting for the turbines will be.

DEIS at 2-29: Where is the waste disposal site or landfill that the refuse would be hauled to? Searchlight has one small drop station, which is inadequate for existing use, and would certainly not accommodate waste from a commercial operation. This could be a significant impact to the local community that is not addressed in the DEIS.

MM-BIO-1 describes the interim rehabilitation (Table 2.6-2. Mitigation Measures). APM-10, Site Rehabilitation Plan and Site Decommissioning Plan would be developed 6 months prior to decommissioning.

No ground-disturbing geotechnical investigations have been completed to date. The EIS in Section 2.3.1- General Features of the Proposed Project, states that, "Prior to construction, geotechnical investigations would be conducted to determine the soil characteristics at each WTG location. These geotechnical data would assist the project proponent in the selection of the appropriate WTG foundation type."

No existing private roads would be utilized and the EIS has been updated to reflect this.

Cottonwood Cove Road would not be widened. Figures 2-1-96 WTG Layout Alternative and 2-2-87 WTG Layout Alternative, illustrate the areas where existing roads would be widened and upgraded. Road widths would range between 16 and 36 feet. BLM disclosed that streets could receive wear from equipment and deliveries and has required a mitigation measure to address the effect, refer to MM TRAN-2: Repair Damaged Streets.

All project related activities, including parking, would be limited to the ROW. This would be a requirement in the ROD and/or ROW grant. Generally parking would be limited to the laydown and staging areas.

While the BLM does not have a Dark Sky Management policy, the BLM does recognize the importance of considering the dark sky environment. MM-VIS-5 has been updated to reflect that a lighting plan would be submitted and approved by the BLM and the basic elements that would be contained in that plan. The EIS discloses the maximum impact. The FAA will determine the actual requirements below that maximum impact.

If Searchlight cannot accept the volume of waste generated by the facility, the waste would be hauled off-site to a licensed waste management facility. Please refer to APM-8 and Section 4.15.14- Human Health and Safety. A Waste Management Plan would be a stipulation of the ROW grant.

DEIS at 2-30: The DEIS lists "Re-grading and re-vegetation" as part of Decommissioning. Desert plants require watering for a year after transplant. If the project is decommissioned, who will be responsible for the care of the vegetation for that year? Has a decommission plan been prepared? Please disclose how the applicant plans to carry out and pay for the decommissioning. Even if the project is no longer in use, and a candidate for decommissioning, what guarantee is there that this will this really happen? There is an abandoned wind project in Hawaii, and many abandoned, non-working turbines littering the landscape throughout California. How will BLM guarantee that the same thing won't happen here? Who will pay for decommissioning?

A reclamation plan is a condition of the bonding process and will be approved by the BLM.

Also, bird and bat fatalities supposedly will be monitored … but what will happen if extreme numbers of both are killed? The bodies are counted, disposed of, and then what? Why not put in place avian radar to detect birds and bats and shut down the turbines? Better still, do more studies to determine if it is really feasible to build turbines where at a site where there large numbers of birds and bats present. It is also stated the mortalities will be monitored for three years. Then what? This is a project that has a 30 year life span. Monitoring for only three years will not do anything to address harm to birds and bats during 90% of the projected life of the project. Post-construction monitoring occurs too late to contribute to the decision whether to approve the project at all, and too late for the birds and bats harmed by the project.

Refer to Appendix B-4: Bird and Bat Conservation Strategy (BBCS) (formerly referred to as the Avian and Bat Protection Plan [ABPP]), which has been developed for the proposed project utilizing the recommendations within the USFWS's March 2012 Land Based Wind Energy Guidelines and includes monitoring requirements and provisions for adaptive management measures based on mortality rates.

The area of the proposed turbines is home to several dozen Turkey Vultures. Vultures are particularly vulnerable to "death by turbine" because of their flight patterns. The area is also home to both golden eagles and bald eagles. The USFWS requires "no net loss" of golden eagles, and wind projects in California and Oregon have been killing significant numbers of these protected birds. Knowing this, why would the applicant attempt to build an industrial wind energy generation facility in known vulture and eagle habitat? And why would BLM approve its application to do so?

Comment noted.

DEIS at 2-31: How far from the Lake Mead NRA entrance station is the switching station? The 30-foot tall buswork would be very visible and disruptive to the viewshed for those people traveling to recreate at the NRA.

Section 2.4.1-Western's Interconnection Switching Station has been updated to disclose the proximity of the switching station to the NRA fee station. Additionally, Section 4.9-Visual Resources Impacts has been updated to include a visual simulation of the switching station.

III. The Environmental Impacts Analysis in the DEIS is Seriously Deficient.

A. The DEIS fails to adequately disclose and evaluate the likely impacts of the project on natural resources.

The DEIS's discussion of likely impacts to wildlife, both birds and mammals, is cursory, omits discussion of significant scientific information, and fails to evaluate adequately the significant harm which the generation and transmission project is likely to cause to wildlife. The DEIS's discussion of impacts to desert tortoise that will result if BLM grants the requested ROWs is inadequate because it provides no information about mitigation. The DEIS similarly understates likely impacts to golden eagles and other avian species from project.

Potential impacts to wildlife species are addressed throughout Sections 4.4-Biological Resources Impacts. Pursuant to Section 7 of the Endangered Species Act, BLM has complete consultation with the USFWS resulting in a Biological Opinion. Appendix B-2: USFWS Biological Opinion contains the required desert tortoise mitigation measures and a discussion of how such mitigation would be effective. A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution) on birds and the adaptive mitigation measures.

BLM must collect, evaluate, and disclose to the public accurate and complete information about the likely impacts to wildlife from the project. The DEIS in its current form does not do this.

1. The DEIS does not adequately address impacts to desert tortoise.

The DEIS fails to adequately evaluate impacts to the ESA-listed, threatened desert tortoise. During surveys of the project site, 122 tortoises were located within the project site. DEIS at 3-26. However, the maps (Figures 1 and 2 to the Desert Tortoise Inventory Survey) show that only a small fraction of the site was surveyed, indicating that far more tortoises likely make their home in the project area. In addition, the surveys only extended for 800 feet on either side of turbines, roads, transmission lines, and other project infrastructure. DEIS at 3-26. However, known effects of noise on wildlife stretch far beyond the survey "belts," and noise and habitat fragmentation through avoidance of human structures, extend far beyond the survey belts and would affect tortoises within their designated critical habitat in the Piute-El Dorado ACEC which completely surrounds the project site.

The desert tortoise is listed as "threatened" under the federal Endangered Species Act (55 Fed. Reg. 12,178 (Apr. 2, 1990)), with critical habitat designated in 1994. 59 Fed. Reg. 5,820 (Feb. 8, 1994). The species is desperately in need of additional protections to stem population declines due to ongoing threats, particularly from the over-aggressive development of industrial-scale energy projects in its habitat. These issues should have been fully explored in the baseline discussion, but are not. The DEIS even ignores the current status of the species and does not explain the need for additional protective measures to ensure recovery.

a. The DEIS does not address the best available science and does not provide high-quality information about the tortoise.

The DEIS includes no information or analysis of the May 2011 Recovery Plan. The recovery plan discusses a variety of threats to the survival and recovery of the desert tortoise, including threats from the construction and energy generation activities proposed for the Searchlight Wind Project. The revised Recovery Plan describes that threats to the tortoise have increased since the original 1994 recovery plan, and that the tortoise has a low potential for recovery. Recovery Plan at vii. The vast majority of threats to the desert tortoise or its habitat are associated with human land uses. *Id.* Moderate downward fluctuations in adult survival rates can result in rapid population declines. *Id.* at viii. "Because desert tortoises occupy large home ranges, the long-term persistence of extensive, unfragmented habitats is essential for the survival of the species. The loss or degradation of these habitats to urbanization, habitat conversion from frequent wildfire, or other landscape-modifying activities place the desert tortoise at increased risk of extirpation." *Id.*

The Recovery Plan illustrates that the project site, although a "keyhole" within a broad area of designated critical habitat, contains a concentration of high potential habitat equal to or greater than many areas designated as critical habitat. Recovery Plan at 12. The fact that 122 tortoises were located on the project site within the narrow survey belts, indicating a population of 8.2 tortoises per square kilometer, underscore the importance of the lands within the project

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

Refer to Section 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives for an updated discussion on impacts to desert tortoise. BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

Comment noted. Data on the desert tortoise includes site-specific surveys in accordance with USFWS protocol.

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

site as a stronghold for tortoises. DEIS at 3-26, Desert Tortoise Inventory Survey at 4, 6. The density of 8.2 tortoises per square kilometer is one and a half times the average density identified for the Eastern Mojave Recovery Unit during surveys in 2007, and higher than the average density of any survey in the last decade in all but two of the other recovery units. Recovery Plan at 9. Despite the high-quality tortoise habitat, BLM has to date failed to adequately protect the area. The on-the-ground habitat has not changed for the desert tortoise on the project site, even as threats throughout the species's range have exploded.

Although not designated as critical habitat for the desert tortoise, the Recovery Plan illustrates that the area within the "keyhole" inside the ACEC where the project would be built is entirely "high potential" habitat for the tortoise. Recovery Plan at 50. The USFWS recognizes that lands outside of designated critical habitat "play an important role in the tortoise's conservation. These lands are also important to providing nesting, foraging. sheltering, dispersal, and/or gene flow habitat for tortoises." 59 Fed. Reg. at 5,825. The project area also is an important area for connectivity of habitat between parts of the critical habitat in the ACEC on all sides of the project site. Construction of the Searchlight Wind Project would place a barrier that covers nearly half of the width of designated critical habitat along the eastern side of the Eastern Mojave Recovery Unit. Recovery Plan at 42. In this area, critical habitat (except for the Searchlight "keyhole" and one other small excluded area in eastern California) is co-extensive with the highest potential habitat. *Id.*

The project would also reduce connectivity between the Eastern Mojave Recovery Unit and the Northeastern Mojave Recovery Unit, which would fragment and isolate these desert tortoise conservation areas, cutting off gene flow, and causing potential long-term harm to the tortoise's potential for survival and recovery. *Id.* at 16, 42. The importance of this area to the tortoise's survival and recovery are substantiated by the relative density of the animals on the project site, and the DEIS misses the opportunity to re-evaluate the site for its importance and potential contributions to desert tortoise recovery efforts.

Instead, the DEIS minimizes the importance of this area for tortoise recovery, saying nothing about the project site's high quality tortoise habitat. It says nothing about how the tortoise density at the site compares with other areas in the tortoise's range. DEIS at 3-26. The DEIS does note that Western's interconnect facility would be located in tortoise critical habitat. DEIS at 3-50 to 3-51. But it does not mention that a portion of the transmission line also would be located in the ACEC in designated critical habitat. *See* DEIS at 3-53 (Figure 3.8-3). And the figure that the DEIS references for the proposition that the ACEC is managed to protect critical habitat, DEIS at 3-51, does not, in fact, show the location of tortoise critical habitat. DEIS at 3-52 (Figure 3.8-2). The DEIS contains no discussion of the potential for the project's facilities and off-site noise and visual effects to destroy or adversely modify desert tortoise critical habitat. DEIS at 4-30 to 4-32.

The DEIS also does not acknowledge the overwhelming impact that energy development is currently having on the tortoise's chance of survival and recovery. BLM must recognize and evaluate the full extent of current threats from energy development and place the project's

I
mpacts to desert tortoise are discussed in 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives. BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

Very little of the proposed project site would be fenced; therefore, tortoise connectivity would remain relatively intact. Connectivity and other risks to desert tortoise are discussed in the EIS in 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives.

Figure 3.8-2 has been modified to illustrate the Paiute-Eldorado ACEC. Text in Section 3.8.2.4-Special Designations has been updated to reflect that a portion of the transmission line would be within the ACEC. Section 4.10.2-Direct and Indirect Effects by Alternative and Section 4.4.5.2 Desert Tortoise – Direct and Indirect Impacts by Alternatives have been updated to include potential noise impacts to tortoise and wildlife.

impacts on the tortoise (and the decision whether or not to grant the ROWs for the project) in the context of those threats. According to the May 2011 Recovery Plan,

> As of November 2010, six solar projects in California and one in Nevada were approved on public lands within the range of the desert tortoise, constituting 3,037.5 megawatts (MW) on 9,683 hectares (23,926 acres) and 430 MW on 3,173 hectares (7,840 acres), respectively. Three additional solar projects on private lands in California have been approved totaling 1,063 MW on 1,686 hectares (4,165 acres). Seven solar projects on public lands were still pending, totaling 1,450 MW on 4,314 hectares (10,659 acres) in California and 900 MW on 6,955 hectares (17,186 acres) in Nevada. Three wind projects within the range of the desert tortoise were also pending, totaling 536.5 MW on 11,775 hectares (29,096 acres) of public and private rights-ofway; one of the California projects is proposed within designated critical habitat. No applications have been submitted for solar or wind projects on public lands within the range of the Mojave population of the desert tortoise in Arizona or Utah. Dozens of project sites have been proposed, and the Bureau of Land Management has committed to excluding these projects from designated critical habitat for the desert tortoise and Desert Wildlife Management Areas. However, potential long-term effects of large-scale energy development fragmenting or isolating desert tortoise conservation areas and cutting off gene flow between these areas have not been evaluated.

Recovery Plan at 16. Over 6,350 MW of energy production has been approved or is pending on public lands in the desert tortoise's range. Should this project be added to that pressure? BLM and the Secretary can only make a rational decision on the question if they provide the appropriate baseline information and analysis of the current condition and threats to the species.

It also is likely that the site survey and previous studies of energy development impacts to tortoises are understating the actual number of tortoises that will be affected by this project and similar projects throughout tortoise habitat. For example, at the BrightSource Energy Solar project in the nearby Ivanpah Valley, more than *ten times as many* tortoises have been located on that project's site during construction compared with the number identified during site surveys. Exhibit 9. The first survey of the BrightSource Ivanpah site found only 16 tortoises, and the USFWS issued a take permit allowing relocation of 38 tortoises and the accidental killing of up to three tortoises during three years of construction. *Id.* However, a total of 166 adult and juvenile tortoises have been collected and moved from the Ivanpah site. *Id.* By contrast, 122 tortoises were identified at the Searchlight site during the field survey, indicating that far more tortoises likely are present. BLM must disclose the inadequacy of the pre-construction survey at the BrightSource project and independently evaluate whether the field survey at Searchlight similarly misstates the likely impact of the Searchlight project on tortoises.

In addition, BLM does not evaluate the potential effects of blasting that will be necessary during construction on tortoises, but rather only discusses "grading" impacts. DEIS at 4-30. Elsewhere, however, BLM acknowledges that blasting is likely to be necessary for constructing

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion). The Biological Opinion includes a "take" limit. If the take limit is exceeded, the BLM would need to reconsult with USFWS.

Section 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives has been updated to include a discussion of blasting effects on tortoise. Also refer to Section 4.4.5.3-Mitigation, which has been updated to include mitigation for tortoise during blasting activities.

access road, setting turbine foundations, and setting transmission towers. DEIS at 2-25, 4-82. As discussed below in the section on geology, it is certain that blasting *will* be required. How will the noise and shock effects of blasting affect this threatened species, both within the project area and in the adjacent designated critical habitat in the ACEC?

b. The DEIS does not address noise impacts to tortoise.

A more general deficiency of the DEIS is that it does not evaluate at all the potential of noise impacts to tortoises within the project site and in the adjacent critical habitat in the ACEC. This includes no discussion of construction noise or noise from operation of the turbines. There will certainly be noise spillover into the critical habitat, as shown by the noise contour maps in the document. DEIS at 4-86, 4-89. As described below in Section III.L, the geology of the site makes it certain that construction will involve considerable blasting, and not merely the "grading" which BLM refers to throughout the DEIS. However, these noise effects are not disclosed in the sections related to desert tortoise. BLM must evaluate the effects of blasting and the noise effects from operation of the turbines on the desert tortoise which remain on the project site as well as those in the critical habitat adjacent to the project site.

The original USFWS 1994 Recovery Plan cited noise and vibration as having potentially significant effects on the desert tortoise's behavior, communication, and hearing apparatus:

> *Anthropogenic noise has several potential impacts on desert tortoises, including disruption of communication and damage to the auditory system.* Background noise has been shown to mask vocal signals essential for individual survival and reproductive success in other animals (e.g., bushcrickets, Conocephalus brevipennis, Bailey and Morris 1986; green treefrogs, Hyla cinerea, Ehret and Gerhardt 1980). *Desert tortoises are known to have hierarchical social interactions* (Brattstrom 1974), *are capable of hearing* (Adrian et al. 1938; Patterson, 1971, 1976), *and communicate vocally* (Campbell and Evans 1967; Patterson, 1971, 1976). *Desert tortoises use eleven different classes of vocalizations in a variety of social encounters* (Patterson 1971, 1976). *The signals are relatively low in amplitude, have fundamental frequencies as low as 0.2 kHz or lower, and harmonics as high as 4.5 kHz* (Patterson 1976). Many human-induced sources of noises, such as automobiles, jets, and trains, cover a wide frequency bandwidth. *When such sounds propagate through the environment, the high frequencies rapidly attenuate, but the low frequencies may travel great distances* (Lyon, 1973). *The dominant frequencies that remain after propagation correspond closely to the frequency band width characteristic of desert tortoise vocalizations. The masking effect of these sounds may significantly alter an individual's ability to effectively communicate or respond in appropriate ways. The same holds true for incidental sounds made by approaching predators; masking of these sounds may reduce a desert tortoise's ability to avoid capture by a predator.* The degree to which masking affects desert tortoise survival and reproduction probably depends on the physical characteristics (i.e., frequency, amplitude, and short- and long-term timing) of the noise and the animal signal, the propagation characteristics of the sounds in the particular environment, the

Section 4.4.4-Wildlife and Section 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives have been updated to include potential noise impacts to wildlife and tortoise.

auditory acuities of desert tortoises, and importance of the signal in mediating social or predator interactions.

Loud noises (and associated vibrations) may damage the hearing apparatus of desert tortoises. Sources of noise and vibration include, but are not limited to: cars, trucks, and other vehicles on paved highways, dirt roads, and test tracks; trains; recreation vehicles traveling on or off road; terrestrial military vehicles; commercial and military aircraft; equipment associated with exploration for and development of hard-rock minerals and saleable and leasable minerals; explosions from military ordnance; air to ground bombing or release of missiles; mining; road construction; and nuclear tests. Little research has been performed on desert tortoise ears, but it is clear that they are able to hear, and the relatively complex vocal repertoires demonstrated by desert tortoises suggests that their hearing acuity is similarly complex. Brattstrom and Bondello (1983) experimentally demonstrated that ORV noise can reduce hearing thresholds of Mojave fringe-toed lizards (Uma scoparia). *Relatively short bursts (500 sec) of loud sounds (95 decibels at 5 meters) caused hearing damage to seven test lizards.* Comparable results were obtained when desert iguanas (Dipsosaurus dorsalis) were exposed to 1 to 10 hours of motorcycle noise (Brattstrom and Bondello 1983). *Repeated or continuous exposure to damaging noises is likely to cause an even greater reduction in auditory response of these lizards. It is not unreasonable to expect loud noises to similarly impact the auditory performance of desert tortoises.*

Ground vibrations can cause desert tortoises to emerge from their burrows; slapping the ground several times within a few feet of a desert tortoise burrow entrance will often cause a desert tortoise to emerge (C. Peterson, pers. comm., and others). Research is needed to determine what kinds of vibrations and noise cause a desert tortoise to emerge from its burrow.

1994 Tortoise Recovery Plan at D38–39 (emphasis added). The May 2011 Recovery Plan notes that little additional data has been collected on noise and vibration effects. Recovery Plan at 154.

The sorts of noises that can harm tortoises' ability to communicate, interact, avoid predators, and which are likely to damage tortoises' hearing are precisely the intense noises from blasting and construction and the low humming noise from whirring turbine blades that will be a perennial component of the environment if the project is approved.

Noise impacts to wildlife have been widely studied. The National Park Service's Natural Sounds Program has published a bibliography of noise impacts on wildlife that includes more than 150 publications. National Park Service Natural Sounds Program, *Annotated Bibliography, Noise Impacts on Wildlife* (Aug. 2011) (available at http://www.nature.nps.gov/naturalsounds/pdf_docs/wildlifebiblio_Aug2011.pdf and on the enclosed CD-ROM as "Wildlife Noise Bibliography Aug 2011"). BLM should review the literature and consult with the National Park Service and USFSW, and then disclose and evaluate the impacts of noise from construction and operation of the project on tortoises.

Noise from the construction and operation of industrial-scale wind energy projects is likely to significantly affect desert tortoises within the project site and in the surrounding critical habitat. USFWS has described that "[t]urbine blades at normal operating speeds can generate significant levels of noise" and that "it is possible that effects to sensitive species may be occurring at ≥ 1 mile from the center of a wind facility at periods of peak sound production." U.S. Fish & Wildlife Service, *The Effects of Noise on Wildlife*, at 1 (*available at* http://www.fws.gov/windenergy/docs/Noise.pdf and enclosed on the CD-ROM). Furthermore, "[n]oise does not have to be loud to have negative effects." *Id.* FWS expressly draws a connection between studies of traffic noise and the noise generated by wind turbines, noting that because "wind-generated noise including blade turbine noise produces a fairly persistent, low frequency sound similar to that generated by traffic noise . . . it is plausible that wildlife effects from these two sound sources could be similar." *Id.* at 2 (citation omitted).

The USFWS states that "noise impacts to wildlife should clearly be included as a factor in wind turbine siting, construction and operation." *Id.* at 1. Some of the key issues to be addressed are:

1) how wind facilities affect background noise levels;

2) how and what fragmentation, including acoustical fragmentation, occurs especially to species sensitive to habitat fragmentation;

3) comparison of turbine noise levels at lower valley sites – where it may be quieter – to turbines placed on ridge lines above rolling terrain where significant topographic sound shadowing can occur having the potential to significantly elevate sound levels above ambient conditions; and

4) correction and accounting of a 15 decibel (dB) underestimate from daytime wind turbine noise readings used to estimate nighttime turbine noise levels (e.g. van den Berg 2004, J. Barber Colorado State Univ. and National Park Service pers. comm., K. Fristrap National Park Service pers. comm.).

Id. USFWS's direction to thoroughly evaluate the potential noise impacts of proposed wind energy projects is unambiguous:

> Given the mounting evidence regarding the negative impacts of noise—specifically low frequency levels of noise such as those created by wind turbines on birds, bats and other wildlife, it is important to take precautionary measures to ensure that noise impacts at wind facilities are thoroughly investigated prior to development. Noise impacts to wildlife *must* be considered during the landscape site evaluation and construction processes.

Id. at 3 (emphasis added).

This USFWS information illustrates that the DEIS is deficient in failing to account for a variety of impacts of noise, including the likely greater effects of noise at nighttime that are not reflected in any discussion in the DEIS. As USFWS reports, studies have shown that "[t]urbine blades at normal operating speeds can generate significant levels of noise." *Id.* at 1. The USFWS's model determined peak sound production as "[a]t a distance 300 ft from the blades, 45-50 dBA were detected; at 2,000 ft, 40 dBA; and at 1 mi, 30-35 dBA (Kaliski 2009)." The USFWS's model used a larger spacing (1,000 feet) between turbines than the project would use (750 feet, DEIS 2-2), making it likely that the noise effects from the project would be even greater than the USFWS's figures. As the DEIS shows, turbines would be located close to the perimeter of the project site on the north, northeast, east, southeast, south, and southwest sides of the project such that constant noise of at least 35 dBA would spill about a mile into tortoise critical habitat on all sides of the project. DEIS at 4-86, 4-89. At least a dozen turbines would be located within 750 feet of desert tortoise critical habitat in the ACEC, and several dozen turbines would be located within 2,500 feet of the ACEC boundary. Tortoise in the ACEC would be adversely affected by noise from the Searchlight project.

USFWS points out that "[w]ind turbine noise results in a high infrasound component (Salt and Hullar 2010). Infrasound is inaudible to the human ear but this unheard sound can cause human annoyance, sensitivity, disturbance, and disorientation." *The Effects of Noise on Wildlife* at 1. These effects may be more profound on birds, bats, and other wildlife. This is because "[*n*]*oise from traffic, wind and operating turbine blades produce low frequency sounds* (< 1-2 kHz; Dooling 2002, Lohr et al. 2003). Bird vocalizations are generally within the 2-5 kHz frequency range (Dooling and Popper 2007) and birds hear best between 1-5 kHz (Dooling 2002)." *Id.* at 1 (emphasis added).

As noted in the 1994 tortoise Recovery Plan, desert tortoises (like birds) rely extensively on vocal communications, using eleven different classes of vocalization in social encounters. 1994 tortoise Recovery Plan at D38. Tortoise vocalizations are low in amplitude (from 0.2 kHz to 4.5 kHz)—in the same range as birds, and in the same low frequency range that is produced by wind turbine operation. These low frequency-range sounds travel longer distances than higher frequency sounds, and therefore are likely to adversely affect wildlife at a greater distance from the turbines. 1994 tortoise Recovery Plan at D38.

It is well-documented that industrial-scale energy projects affect avian species—which have communication and hearing ranges similar to tortoises—far beyond the immediate boundaries of development sites. "In addition to direct collision threats, concerns began to be raised in the late 1990s about wind plants disturbing and fragmenting habitats and disrupting birds." Manville, Albert, *Development and Application of USFWS Guidelines for Siting, Construction, Operation and Monitoring of Wind Turbines, Wind Energy & Bird/Bats Workshop Proceedings* at 86 (Sept. 2004) (on the enclosed CD-ROM). For example, in a pioneering 2004 study of the effects of industrial wind energy development on prairie grouse, FWS recommended that wind energy projects be sited *at least five miles* from prairie grouse leks, which are the central focus of grouse habitat. U.S. Fish & Wildlife Service, *Briefing Paper—Prairie Grouse Leks and Wind Turbines: U.S. Fish and Wildlife Service Justification for a 5-Mile Buffer from Leks; Additional Grassland Songbird Recommendations* (July 30, 2004) (available at

http://www.environment.ok.gov/documents/OKWindEnergy/PrairieGrouseLeksWindTurbines.pdf and enclosed on CD-ROM). The possibility of effects on wildlife up to five miles from turbine sites means that noise impacts extending into the ACEC on all sides could effectively cut-off the northern portion of the designated critical habitat in the Piute Valley from the southern portion, resulting in the destruction and modification of tortoise critical habitat.

USFWS's survey shows "that varying sources and levels noise can affect both the sending and receiving of important acoustic signaling and sounds. This also can cause behavioral modifications in certain species of birds and bats such as decreased foraging and mating success and overall avoidance of noisy areas. The inaudible frequencies of sound may also have negative impacts to wildlife." *The Effects of Noise on Wildlife* at 3. In addition, even small noise increases may have dramatic effects on the ability of tortoises to communicate: for example, "a noise increase of just 3 dB – a noise level identified as 'just perceptible to humans' – this increase corresponded to a 50% loss of listening area for wildlife." *Id.* at 2. "Other data suggest noise increases of 3 dB to 10 dB correspond to 30% to 90% reductions in alerting distances for wildlife, respectively." *Id.* at 2–3. Thus USFWS concludes that "[i]mpacts of noise could thus be putting species at risk by impairing signaling and listening capabilities necessary for successful communication and survival."

Despite the documented effects of noise on wildlife, and longstanding USFWS concerns about noise impacts to tortoises, the DEIS contains no information about likely impacts from the noise of turbines, blasting, and other construction and operation activities.

Sensitive species such as desert tortoises are vulnerable to regional extirpation as the effects of climate change degrade their habitat. Recovery Plan at 18–19. Drought in particular is a serious threat to tortoise survival. The DEIS fails to address how development of the project will exacerbate climate change-related impacts to desert tortoises by fragmenting habitat and adding additional stress. This area of southern Nevada has experienced below-normal rainfall levels in the last two years. Please provide information about the current climatic conditions in the project area and evaluate how this will affect the tortoises when combined with the effects of construction and operation of the project.

c. BLM must prepare a supplemental DEIS that adequately discloses the biological assessment and properly evaluates mitigation measures.

BLM must prepare a supplemental DEIS that properly discloses the likely environmental impacts to desert tortoises. According to the DEIS, Duke and Western already have prepared a biological assessment to assess the effects of the project on the ESA-listed tortoise. DEIS 1-15. First, this violates the BLM's duty to prepare a biological assessment for any proposed action that may adversely affect a listed species. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12(a). BLM must independently prepare its biological assessment to comply with the ESA, not rely on a document produced by the project proponents, and disclose this information as part of its NEPA process for public comment. See 40 C.F.R. § 1506.5; see also Utahns for Better Transp. v. Department of Transp., 305 F.3d 1152, 1165 (10th Cir. 2002) (citing 40 C.F.R. § 1506.5(a)).

A third party independent contractor under direction of the BLM prepared the Biological Assessment. The BLM reviewed and approved the Biological Assessment prior to submission to the USFWS. BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

Second, BLM's failure to include the biological assessment in the DEIS violates NEPA. The discussion of effects on the threatened tortoise are cursory at best and omits any information about *how* the proposed mitigation (which amounts to little more than a promise to implement an as-yet-not-prepared biological opinion) will avoid the significant impacts from construction and operation of the project on the tortoise. DEIS 4-30 to 4-32. NEPA requires an agency to include the material in the biological assessment directly in the text of the DEIS. 40 C.F.R. § 1502.1; *Pac. Rivers Council v. U.S. Forest Serv.*, 668 F.3d 609, 628 (9th Cir. 2012). "This is not a mere formality. The purpose of an EIS is to inform decision makers and the general public of the environmental consequences of a proposed federal action. That purpose would be defeated if a critical part of the analysis could be omitted from an EIS and its appendices." *Pac. Rivers*, 668 F.3d at 628. The DEIS contains no analysis of the manner or degree to which any of the proposed alternatives may affect desert tortoises. *Id.*

The public literally has no information in the DEIS on which to base comments regarding the specific impacts of this specific project on the tortoise or how BLM proposes to avoid or mitigate those impacts. There is no information about what mitigation is proposed, only a listing of possible measures that "may" be included. DEIS at 2-43 to 2-44. What are the terms and conditions that BLM *will* apply to mitigate the harm from this project?

NEPA regulations require that BLM discuss possible mitigation measures as a means to "mitigate adverse environmental impacts." 40 C.F.R. § 1502.16(h). An adequate discussion of mitigation measures requires the agency to analyze the effectiveness of the proposed mitigation. *S. Fork Band Council of W. Shoshone v. U.S. Dep't of Interior*, 588 F.3d 718, 727 (9th Cir. 2009). This allows the court to determine "whether they constitute an adequate buffer against the negative impacts that may result from the authorized activity." *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 734 (9th Cir. 2001). To comply with NEPA, mitigation measures proposed in an EIS "must be developed to a reasonable degree. A perfunctory description, or 'mere listing' of mitigation measures, without supporting analytical data" is insufficient. *Id.* (quoting *Idaho Sporting Cong.*, 137 F.3d at 1151).

Part of the potential "mitigation" for harm from construction and operation of the project involves relocation (or translocation) of desert tortoises. However, recent studies of effects of handling and translocating tortoises show that such activities kill tortoises at a rate much higher than previously thought. At an August 25, 2011 hearing before the California Energy Commission considering the application for the Calico Solar Project, Dr. Kristin Berry, a leading desert tortoise biologist from the U.S. Geological Survey's Western Ecological Research Center, testified that in a recent study at the Fort Irwin solar project, 49% of tortoises transplanted had died over a 3-year period. Transcript, August 25, 2011 Evidentiary Hearing Before the California Energy Resources Conservation and Development Commission, at 80 (enclosed on CD-ROM). During 2011 alone, 11.6% of the relocated tortoises had died—compared to 2.5% and zero percent mortality at two control sites where no relocation had occurred. *Id.* Mortality among resident tortoises on the recipient site also may have a high mortality rate due to competition from translocated tortoises, and even the process of handling tortoises for blood testing will result in tortoise mortality. Without considering and disclosing the effects of its proposed mitigation, BLM cannot determine whether or not the mitigation will be effective.

Impacts to desert tortoise are discussed in 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives. BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

Appendix B-2: USFWS Biological Opinion contains the required desert tortoise mitigation measures. Section 4.4.5.3-Mitigation has been updated to reflect these requirements. This mitigation measures would be a stipulation of the ROW grant.

A discussion of all mitigation measures is included in the EIS. BLM requires that mitigation measures be implemented as a stipulation of the ROW Grant. Development of mitigation plans often requires input, review, and approval by other regulating agencies such as USFWS, NDEP, DAQ, and NDOT. As such these plans are not typically completed prior to a Final EIS. However, all the elements and basic requirements of the mitigation plans are discussed throughout the EIS. Additionally, a number of mitigation plans have been completed and are included as follows Appendix B-1: Weed Management Plan, Appendix B-2: USFWS Biological Opinion, Appendix B-3: Terrestrial Wildlife Plan, and Appendix B-4: Bird and Bat Conservation Strategy.

This impact is described in 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives. Pursuant to Section 7 of the Endangered Species Act, BLM has complete consultation with the USFWS resulting in a Biological Opinion. Appendix B-2: USFWS Biological Opinion contains the required desert tortoise mitigation measures and a discussion of how such mitigation would be effective. Section 4.4.5.3-Mitigation has been updated to reflect these requirements.

At an earlier hearing, Tracy Moore, a biologist for California Department of Fish and Game, described that her Department had asked the California Energy Commission to use Dr. Berry's 50% mortality figure from translocation in its evaluations of potential impacts from energy projects on tortoises. Transcript, August 18, 2011 Evidentiary Hearing Before the California Energy Resources Conservation and Development Commission, at 268 (enclosed on CD-ROM). BLM does not evaluate the likely mortality from handling and translocating tortoises in its discussion of "mitigation" to the project.

The proposed mitigation (DEIS at 2-43 to 2-44) would be inadequate to protect tortoises, even aside from the mortality that would result from relocation. For Desert tortoise protection, temporary exclusion fence should be placed around the perimeter of each work area as construction is underway, such as turbine pads and access roads. A Biological monitor should be present at all seasons in case tortoises are uncovered in the ground. After construction of each area is completed, the tortoise exclusion fence can be removed.

Thirty miles of new roads will be constructed. Some of the roads will be 36 feet wide to accommodate cranes and other heavy machinery. This will remove and fragment the habitat. As mitigation, BLM proposes a 15 MPH speed limit, but does not indicate how this will be enforced during the 30 year lifespan of the project. BLM is not clear if these new roads will be open to the public. Will all roads in the area have the same speed limit? Generally, the BLM law enforcement rangers cover a large number of square miles per person.

In addition, wind turbines are manufactured with rare Earth elements. Exhibit 10. Turbine failures are common, and may result in blades flying off and traveling over 4,200 feet. *Id.* at 3. This could expose tortoises in the ACEC to heavy metals or toxic chemicals, which have been linked to a shell disease (cutaneous dyskeratosis) that weakens turtle shells and is associated with high tortoise mortality. Jacobson *et al.*. Cutaneous Dyskeratosis in Free-Ranging Desert Tortoises, *Gopherus agassizii*, in the Colorado Desert of Southern California. Journal of Zoo and Wildlife Medicine, Vol. 25, No. 1, Reptile and Amphibian Issue (Mar., 1994): 68-81 (enclosed on CD-ROM). Please evaluate potential impacts of toxic chemicals and heavy metals from turbines and their potential health impact to tortoises on the project site and in the surrounding critical habitat.

BLM must disclose and evaluate the science contained in the May 2011 Recovery Plan, and explain how it applies to the desert tortoise at the project site and which depend on the surrounding critical habitat within the Piute-El Dorado Valley ACEC which the project would affect. Based on the scientific consensus regarding the perilous state of the tortoise, and the overwhelming threats from energy development throughout its habitat, BLM cannot authorize construction of an industrial-scale wind energy project in high potential habitat where there is documented evidence of a very high density of tortoises. The DEIS needs to fully explore the magnitude and extent of impacts on desert tortoise, including effects from noise, visual effects, fragmentation of habitat, and the dangers of translocation. As a species listed under the Endangered Species Act, BLM has a duty to protect this species and its habitat, and approve projects only if they will insure the survival and recovery of the affected species. As it stands, the DEIS's analysis of the effects of the project on tortoises is cursory and incomplete.

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion). Section 4.4.5.3-Mitigation and other relevant sections have been updated to reflect these requirements.

Comment noted.

Refer to section 4.14-Health and Human Safety Impacts, which states "any release would be cleaned up thereby, limiting or preventing any potential exposure to people or wildlife."

Impacts to desert tortoise are discussed in 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives. BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

2. **The DEIS does not adequately address impacts to avian populations including golden eagles, bald eagles, and other birds.**

a. **Impacts to golden eagles and bald eagles.**

The DEIS makes no effort whatever to describe quantitatively the likely impact to golden eagles, bald eagles, other raptors, and other avian species. DEIS at 4-35 to 4-36. The DEIS does not explain why it is not possible to do so. This violates the BLM's obligation under NEPA to provide high-quality information and do more than provide a generalized description of possible effects. Without some idea of what the likely effects of the project are in terms of bird mortality, it is impossible to evaluate whether mitigation would be effective. But the DEIS also provides that the Avian and Bat Protection Plan ("ABPP") will be developed in the future to define thresholds of adverse effects and provide mitigation for thresholds that are exceeded. But, again, NEPA requires that this mitigation information be provided in the DEIS itself to allow for meaningful public review and democratic decision making. The ABPP must be developed *now*, and its terms disclosed to the public as part of a supplemental DEIS. What are the thresholds? What actions will be triggered by passing the thresholds? What mitigation measures will be available? Will those measures be effective?

It is certain that the operation of the Searchlight Wind Project will kill golden eagles, bald eagles, and other species protected by the Migratory Bird Treaty Act ("MBTA"). Avian surveys have documented golden eagles, six other species of raptor, and 57 species of non-raptor birds within the project site. DEIS at 3-29 to 3-31. However, the DEIS makes no attempt to quantify the likely mortality, or describe how that mortality could be minimized or avoided, rendering the document useless from a NEPA standpoint.

Avian mortality through collisions with the rotor blades on wind turbines is a chief impact that industrial-scale wind energy generation facilities have on the environment. Long-term studies on the effects of industrial scale wind projects are rare and there are a number of cases in the American West of large-scale wind projects causing harm to raptor populations and other migratory birds. The DEIS fails to adequately evaluate impacts to migratory birds, and impacts/impediments on migratory flyways, even though the DEIS recognizes that the area sits within the Pacific Flyway, an important migratory route. DEIS at 3-29. Due the magnitude of potential impacts on the avian populations, additional avian studies are needed to identify more specifically migratory flyways for seasonal migrants that use the project area and could come into contact with the turbine blades. Of all species in this area, the avian species have the largest range—spatially limited studies offer little assurance the impacts will be as isolated as they are described in the DEIS. The existing avian study is missing quantitative study of avian and bat migratory movements—much of the information and assessment of impacts is based on limited observation and conjecture, and on an unreasonably narrow point count methodology. These studies should be completed and added into a supplemental DEIS so that the public can review new information before it appears in a final EIS.

Impacts to raptors and non-raptors are discussed in Section 4.4.5.11-Migratory Birds - Direct and Indirect Effects by Alternative. A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution) on birds and the adaptive mitigation measures.

Avian fatalities (for non eagles) were not estimated because pre-construction data poorly predicts fatalities for birds (Ferrer et al. 2012). The purpose of the NEPA document is to disclose potential impacts so that the decision-makers can make an informed Record of Decision. Appendix B-4: Bird and Bat Conservation Strategy (BBCS) (formerly referred to as the Avian and Bat Protection Plan [ABPP]) has been developed for the proposed project utilizing the recommendations within the USFWS's March 2012 Land Based Wind Energy Guidelines, which includes a risk assessment and adaptive management measures. At the time baseline surveys were completed for the project, Nevada had no official policy or protocols for avian pre-project surveys so protocols were developed between BLM and NDOW. The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution) on birds. The intention is not to predict the number of fatalities due to turbine collision as pre-construction data poorly predicts fatalities for birds (Ferrer et al. 2012), but to determine if any species is at high risk to inform post-construction fatality monitoring.

Renewable Energy (Sept. 30, 2011). BLM has not disclosed the result of the coordination process with UWFWS required by IM 2010-156 or that it has conducted the necessary cumulative effects analysis of impacts to golden eagles. Please disclose how BLM intends to comply with this guidance.

The DEIS improperly minimizes its discussion of the likely effects on golden eagles. For example, the DEIS does not provide any information or evidence to support its statement that "[when compared to raptor use data at other wind energy facilities, raptor use at the Proposed Project site was relatively low. Additionally, no golden eagle nests were located within 4 miles of the Proposed Project area. The level of raptor use in the Proposed Project area suggests that raptor mortality is anticipated to be low." DEIS at 4-36. But at the same time, the DEIS claims that "it is not possible to quantify effects on bats and birds based on pre-project surveys." *Id.* This is nonsense. BLM has routinely provided quantitative estimates of the likely number of golden eagles, other raptors, and bats that are likely to die as a result of the operation of a wind energy facility. *See, e.g.*, Exhibit 11 (pages from BLM's North Steens Transmission Final EIS with estimates of likely bird and bat mortality from the associated Echanis generation site). At the referenced Echanis generation site, a 104-MW production project on Steens Mountain in Oregon, BLM was evaluating a project half the size of the Searchlight Wind Project that—similar to Searchlight—had one eagle nest relatively close to the turbine site (2.5 miles at Steens, 4.3 miles at Searchlight) with other potential nests within the 10-mile USFWS survey perimeter. BLM in Oregon was able to perform a calculation predicting annual golden eagle mortality of 1.7 eagles per year, which BLM then translated into take of about 0 to 3 golden eagles per year from the generation facility. *Id.* at 10 (page 3.5-47).

BLM in this DEIS provides no high quality data about likely effects, provides no evidence to support its claims of "low" raptor use in the project area, provides no evidence supporting its claim that "raptor mortality is anticipated to be low" and provides no explanation for how it can reach the previous conclusion when it "is not possible to quantify effects on bats and birds." In short, BLM's explanation regarding the likely effect of the project on golden eagles contradicts itself, and is in clear violation of NEPA.

BLM also shamefully ignores the most recent information about the growing awareness that industrial-scale wind energy facilities are killing significant numbers of golden eagles. The DEIS does not mention this at all, and the 2007-2009 Avian Survey says "although golden eagles have been found during mortality searches at wind facilities, most notably at Altamont Pass in California, low mean use and encounter rates are suggestive of low risk of fatality" without providing any information about the prevalence of eagle kills, mortality rates, or the probability of kills at other facilities or explanation comparing this project to others. In fact, the USFWS has documented at least 54 golden eagles killed by wind energy generation projects *outside* of Altamont Pass. Exhibit 12 at 1 (February 2012 American Bird Conservancy ("ABC") comments on West Butte Wind BGEPA take permit). Please evaluate the information provided in the ABC's comments (Exhibit 12) regarding the first-ever programmatic golden eagle take permit in considering the potential lethal effects of the Searchlight Wind Project on golden eagles. ABC has also expressed concern about eight golden eagle kills at California's Pine Tree wind project over the past two years. Exhibit 13.

BLM included sufficient discussion in the DEIS to inform the public regarding potential impacts to avian species in Section 4.4.5.11-Migratory Birds - Direct and Indirect Effects by Alternative and the strategy that would be employed to mitigate those impacts.

Avian fatalities (for non eagle) were not estimated because pre-construction data poorly predicts fatalities for birds (Ferrer et al. 2012). Appendix B-4: Bird and Bat Conservation Strategy (BBCS) (formerly referred to as the Avian and Bat Protection Plan [ABPP]) has been developed for the proposed project utilizing the recommendations within the USFWS's March 2012 Land Based Wind Energy Guidelines, which includes a risk assessment and adaptive management measures.

BLM should pay particular attention to the situation at the Pine Tree wind project. BLM was the federal lead agency on the environmental assessment for the Pine Tree project; a copy of the Environmental Assessment/Final Environmental Impact Report for Pine Tree ("Pine Tree FEIR") is enclosed on the CD-ROM. This project was thought to be "low risk" for golden eagles. *See* Exhibit 13. The avian surveys at Pine Tree confirmed that golden eagles were observed on the site, but that no golden eagle nest was found on site. Pine Tree FEIR at 2-58. Like the DEIS here, the EA/FEIR downplayed potential harm to golden eagles, nonchalantly stating that the birds "are distributed throughout the Tehachapi Mountains and Southern California. Thus, there is no local population, which by definition would require that the birds be almost completely isolated (for breeding/genetic purposes) from other populations. The loss of a golden eagle would not jeopardize the species or extirpate them from the general or local area." Pine Tree FEIR at 2-77. The avian report for Pine Tree describes that "raptor and vulture use at Pine Tree was approximately 50% lower than the average use found at other active or proposed developments, approximately 40% lower than the average at Tehachapi WRA, and approximately 90% lower than that observed at Altamont Pass WRA." Pine Tree FEIR, Fall Avian Report, at 2.

Comment noted.

In all of these respects, including the supposedly lower usage by raptors compared with unspecified "other" projects, BLM's assessment of likely impacts to golden eagles at Pine Tree mirrors the DEIS's assessment at Searchlight. Yet eight eagles have died from turbine strikes at Pine Tree in the last two years. Can BLM explain how it got Pine Tree's assessment so very wrong, and why the same rate of eagle deaths—or at least more than "we don't know"—will occur at the Searchlight Wind Project?

Comment noted.

The DEIS fails to explain how it will mitigate the loss of a substantial amount of foraging habitat for the golden eagles that currently use the project site, either as a result of this project, or cumulatively as a result of the other energy projects in this region. The fact still remains that significant amounts of foraging habitat will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair, which would impact reproductive capacity.

As discussed in the EIS, the Proposed Project would result in the loss of some foraging habitat for the golden eagle; however, the proportion of foraging habitat that would be lost due to the Proposed Project is small compared to the total amount of available foraging habitat within the Piute and Eldorado Valleys.

Contrary to the "impossible to calculate" number of eagles, raptor and other bird deaths forecast in the DEIS, large-scale wind projects have been documented to kill up to 900 birds per year, and up to 350 raptors per year. For example, a two-year survey of the Altamont Pass wind power site in California, which is being aggressively managed to reduce raptor kills, reported over 1,800 bird kills (705 raptors killed, along with 1,095 non-raptors). Exhibit 14 at 1, 15 (excerpts; full study enclosed on CD-ROM). Despite efforts to mitigate harm to birds by, for example, a two-month shutdown during low wind season,

> [t]he results of this study show an apparent continued trend of high bird fatalities, both raptors and non-raptors at APWRA. The number of annual fatalities does not appear to be decreasing despite implementation of specific conservations measures including the cross-over winter shutdown program, high risk turbine removal and blade-painting.

For a variety of reasons Altamont fatality numbers may be an outlier with regard to golden eagle fatalities at wind energy facilities. In addition to the dense configuration of older-generation turbines, high prey densities and lack of breeding eagles possibly attract sub-adults and floaters to the Altamont, contributing to the high activity and high fatality rates. In addition, the limited amount of repowering that has occurred at Altamont suggests that eagle (and raptor) fatality rates will decline as the older turbines are replaced by fewer, taller, and higher power-rated turbines. Initial results of the repowering suggest that golden eagle fatality rates could decline by more than 80% with complete turbine replacement and comparable power output (Insignia 2009; Smallwood and Karas 2009; ICF 2011).

Id. at 16; *see also* US Fish & Wildlife Service presentation on "Wind Power and Birds" (on enclosed CD-ROM) (noting that it is impossible to mitigate bird kills under the Migratory Bird Treaty Act).

The DEIS's evaluation of potential impacts to golden eagles in the cumulative effects section is inadequate. Besides not quantifying potential cumulative effects on golden eagles, the DEIS includes no information on potential cumulative impacts. DEIS at 4-131, even though an actually-acknowledged cumulative impact is a transmission line. *Id.* Transmission lines are known to cause to eagle mortality. There is no discussion of potential cumulative impacts from other wind projects proposed in the same region, despite evidence from Altamont Pass and other wind projects that these industrial facilities kill a significant number of eagles. BLM must disclose actual data showing the number of golden eagles which have been killed by wind generation and transmission projects throughout the West this year and in recent years. Again, this is an example of the cumulative effects analysis failing to quantify and detail likely impacts from cumulative and connected actions in violation of NEPA.

BLM's (actually Duke's consultant's) survey methodology was flawed. The consultant did one helicopter nest survey in April 2011. USFWS survey protocols to detect eagles are being updated, and the agencies are requesting more data to be able to evaluate mortality potential. April is too late in the season to detect eagle territories, USFWS is recommending March helicopter surveys (USFWS Joel Pagels January 7, 2012 workshop with California Energy Commission for Rio Mesa Solar Electric Generating Facility). Golden eagles will return to nest sites some years, then not use the nest in other years. The purpose of such surveys is to see if eagles are in their territories, they do not nest every year but will occupy a territory. A nest may look empty but eagles may still be using the area. Breeding is based on prey availability. A quick snapshot of nests during a brief helicopter flight will not provide enough data. At least two surveys are needed, and one would be lucky to get enough data even then. Surveyors need to be completely qualified.

In addition, non-breeding surveys should be carried out to look for resident adults, "floaters," and juveniles. How many eagles are present in the Searchlight area? Ground surveys are needed as well, to detect floater individuals waiting to take over a territory. These individuals may even kill an adult to take over its territory. Ground surveys can find the juvenile eagles which are often missed by helicopter surveys. USFWS recommends at least 2–3 years of surveys to detect non-breeding eagles. To detect presence of eagles, "Long Sit" surveys should be done, where observers remain in one spot for 1–4 hours (up to 8 hours) and scan with binoculars for eagles.

Neither the DEIS nor the applicant's consultant's avian survey describe the potential effects on bald eagles. However, Bald eagles have a stronghold wintering population and turbines would be constructed within seven miles of their winter habitat. While bald eagles are not recognized for being as nomadic as golden eagles, there is no mention in the DEIS as to what risks there would be to eagles arriving and departing the region for the winter. The last Lake Mead Bald Eagle count turned up more bald eagles than ever. Observers counted 177 and found

The geographic boundaries of the cumulative impacts analysis identified in the comment are described in the EIS in Section 4.17.5-Potential Cumulative Impacts. The geographical boundaries should not be extended to the point that the analysis becomes unwieldy and useless for decision-making. In many cases, the analysis should use an ecological region boundary that focuses on the natural units that constitute the resources of concern. For the purposes of eagle analyses no other projects were identified within the area of cumulative effect.

The decision as to whether an eagle take permit is requested is between the USFWS and Searchlight Wind Energy, LLC. If these parties determine that an eagle take permit for the project would be applied for; the USFWS would consider the cumulative effects of issuing such a permit.

At the time baseline surveys were completed for the project, Nevada had no official policy or protocols for avian pre-project surveys so protocols were developed between BLM and NDOW. In summary, two years of point count surveys were conducted, two spring seasons of raptor nest surveys, one season of bald eagle winter use surveys, and two aerial surveys of raptor nests.

The data collected in the project area does not reflect the high eagle used that has been recorded at Lake Mead. This is understandable as Lake Mead would be considered an attractant, providing a food source (i.e. fish) for eagle consumption. The proposed project area does not contain such an attractant as reflected by the lower observations of eagles.

a first-ever produced offspring. Bald Eagle Monitoring Final Report 2010-2011 at 1 (available at http://basinandrangewatch.org/Bald_Eagle_Monitoring_Final_Report_2010_2011-1.pdf and enclosed on the CD-ROM). The concentration of bald eagles spotted at the north end of Lake Mohave during the January 11, 2010 eagle count is within approximately six or seven miles of the project site. Bald Eagle Monitoring Final Report 2010-2011 at 7. BLM must disclose and evaluate the potential impact of the project site on bald eagles.

b. Impacts to other avian species.

BLM should confer with USFWS and must independently evaluate the statements regarding the impossibility of predicting bird kills by the project and disclose information regarding avian deaths from wind turbines at *all* wind projects that have reported data, and evaluate which sites are more like, or less like, the Searchlight site. Simply dismissing contrary scientific data without analysis violates NEPA. The agencies must also obtain and disclose data and analysis of likely raptor and other bird deaths from collisions with the proposed turbines at the project site.

BLM and USFWS should evaluate the attached comments of Dr. Shawn Smallwood related to the Whistling Ridge Wind project in Skamania County, Washington, a 75 MW project. Exhibit 15. As these comments demonstrate, preconstruction predictions of bird fatalities are often far lower than the actual estimated kills after a wind project begins operations. Exhibit 15 at 1–2. Dr. Smallwood extrapolated from avian kill monitoring at 23 wind sites in Oregon, California and Washington that the average annual fatalities for a project with 75 MW rated capacity would be 33 raptor fatalities, 422 total bird fatalities, and 86 bat fatalities. Exhibit 15 at 16. Again extrapolating this to the 200 MW rated capacity of the project, granting the ROW would result in 88 raptor deaths per year, 1,125 total bird deaths per year, and 229 bat deaths per year.

Dr. Smallwood's studies demonstrate that the potential for raptor, other bird, and bat deaths *can* be quantified and estimated—it *is* "possible," contrary to the assertion in the DEIS. DEIS at 4-35. In fact, BLM has done so at other proposed industrial wind energy development sites. *See, e.g.*, Exhibit 11 (estimating bird deaths at proposed 104 MW wind power generation site in Oregon). And the fact that 57 species EIS at exceeds the estimates provided in the DEIS.

Particularly given the finding that 72.7% of raptors *sighted on the project site itself* flew within the area that would be swept by the turbines' enormous rotor blades, significant kill of birds and bats is likely to occur at the Searchlight project. Even granting that fewer birds might use this site than other wind sites, the DEIS's disclosure and analysis of these effects is inadequate.

BLM should also consider that many of the methodological deficiencies in the Whistling Ridge surveys which Dr. Smallwood describes are present in the avian studies for the Searchlight project. Exhibit 15 at 3-9. BLM must fully disclose the methodology used to estimate likely bird kills in the supplemental DEIS and explain whether it conforms to best science as described in Dr. Smallwood's comments.

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution) on birds and the adaptive mitigation measures. The intention is not to predict the number of fatalities due to turbine collision as pre-construction data poorly predicts fatalities for birds (Ferrer et al. 2012), but to determine if any species is at high risk to inform post-construction fatality monitoring.

The DEIS also fails to ensure compliance with the Migratory Bird Treaty Act ("MBTA"). Many of the species that have been identified at the project site are protected under this Act, but the DEIS does not demonstrate that operation of the project will comply with the Act. The MBTA requires that the USFWS enforce the MBTA against "any person, association, partnership, or corporation" that "by any means or in any manner," pursues, hunts, takes, captures, kills or attempts to take, capture or kill a migratory bird or any part, nest or eggs of any migratory bird. 16 U.S.C. §§ 703, 707. Under the MBTA, a person may take or kill migratory birds only as permitted under USFWS regulations and based on the USFWS's determination that the take or kill is compatible with the migratory bird treaties. *Id.* §§ 703, 704. The USFWS's determination must take into account scientific factors such as species abundance and distribution, migratory patterns, and breeding habits, as well as the economic value of birds. Id. § 704. The killing of a single migratory bird is sufficient to create criminal liability. *United States v. Corbin Farm Serv.*, 444 F. Supp. 510 (E.D. Cal), *aff'd*, 578 F.2d 259 (9th Cir. 1978). The killing of a migratory bird does not need to be intentional and the killing can occur "by any means or in any manner." *United States v. Moon Lake Electric Ass'n, Inc.*, 45 F. Supp. 2d 1070, 1075–79 (D. Col. 1999) (upholding the prosecution of a utility for unintentionally electrocuting and killing seventeen birds).

No permitting framework exists that allows a company to protect itself from liability resulting from take at wind facilities; however, the USFWS does not usually take action under the MBTA if good faith efforts have been made to minimize impacts. Appendix B-4: Bird and Bat Conservation Strategy (BBCS) (formerly referred to as the Avian and Bat Protection Plan [ABPP]) has been developed for the proposed project utilizing the recommendations within the USFWS's March 2012 Land Based Wind Energy Guidelines including a risk assessment and adaptive management measures.

Burrowing owls, a sensitive species, are present at the project site. DEIS at 3-31. The DEIS provides no information quantifying likely impacts (except reiterating how impossible it is to make any predictions), but says that any impacts will be mitigated through a mitigation plan that has not yet been developed. This violates NEPA. The DEIS presents essentially no information whatever about the baseline conditions of burrowing owls in the area or their status as a species. BLM should independently evaluate the site for burrowing owls, using the latest scientific protocol, which is in the California Department of Fish and Game's March 2012 staff report on burrowing owl mitigation, enclosed on the CD-ROM and available at www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf.

MM-BIO-6 specifies that Burrowing Owl Mitigation would follow USFWS Guidelines Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region, which has been specifically developed for Nevada projects.

In addition, BLM must independently evaluate the potential that pelicans and other waterfowl using the Pacific Flyway and nearby Lake Mohave will be killed by the project's turbines. Pelicans and other waterfowl have been spotted over the project site by local residents. While this may not be recognized migratory water fowl route, neither the DEIS nor the Tetra Tech biology reports even mention it.

During bird surveys, no pelicans or other waterfowl were detected in the project area.

Finally, the avian survey supporting the DEIS is methodologically flawed and are inappropriate and ineffectual for answering the core questions of how many birds use the Searchlight site and what potential impacts to these species will be. For example, the survey efforts appear to only disclose a general presence/absence survey of birds. *See, e.g.*, DEIS at 3-29 to 3-32. It is not clear how this survey's results will contribute towards critical decision making since the protocols are not designed to convincingly deduce species' "absence" and therefore remove them from concern. Avian surveys were conducted during the day, or shortly after sunset, when in fact a large portion of avian mortality from industrial wind facilities is inflicted

At the time baseline surveys were completed for the project, Nevada had no official policy or protocols for avian pre-project surveys so protocols were developed between BLM and NDOW. Little evidence exists to suggest that the southwest and the area near the Searchlight wind project in the Mojave Desert are areas of high use migrant songbirds. However, migrant songbirds breed in the vicinity and likely travel through the area to reach the breeding grounds. Little data exists that correlate migrant passage rate with mortality at wind farms, but results to date indicate mortality is low (Erickson 2007).

on nocturnally migrating species (NRC 2007).[4] Quantification of the use of the site by nocturnally migrating species requires specialized equipment and surveys not described in the CEP's reports, such as multi-year radar studies. 60% of all flying animal mortality at wind turbine sites are bats, not birds (Baerwald *et al.* 2008).[5] The detection rate of bats also is likely to be underreported because of the lack of nighttime surveys.

3. The DEIS does not adequately address impacts to desert bighorn sheep.

Bighorn sheep need large expanses of land to roam for seasonal migrations to and from important winter range. Impediments to movement of these animals, such as an industrial-scale wind energy facility, will likely have negative impacts on big game populations that travel through the project area to reach other necessary areas of habitat. Desert bighorn sheep are present on the project site, and the site contains over 6,000 acres of bighorn sheep habitat of which 416 acres have slopes greater than 60% suitable for escape terrain. DEIS at 3-33. Bighorn sheep numbers in the nearby Newberry and Eldorado mountains have increased in recent years. *Id.* The DEIS recognizes that a Nevada Department of Wildlife management unit overlaps with the project area, and that the project area is part of the movement corridor linking the Newberry and Eldorado mountains. *Id.* The DEIS even recognizes that new structures, roads and human presence are barriers to bighorn sheep movement. *Id.* at 4-37. Then the DEIS dismisses potential impacts in less than half a page, stating without any support that "project effects are anticipated to be minimal" because "the project would only occupy a small portion of the available migratory corridor between these mountain ranges leaving some connectivity." *Id.* Significantly, the DEIS contains no map or other information that would allow the public and the decision maker to evaluate or comment meaningfully on the extent of the impact that the project will have on bighorn movement in the area.

Nowhere does BLM provide information regarding its conclusions that the occupied portion of the corridor is "small," nor what "some connectivity" means, nor how it arrived at the conclusion that blocking connectivity between two groups of sheep and fragmenting their habitat with noisy wind turbines will have "minimal" effect. The DEIS does not satisfy BLM's obligations to disclose and evaluate impacts under NEPA nor BLM's obligations to minimize harm to sensitive species in its own Manual. A supplemental DEIS should re-evaluate the impacts to habitat and the possible impacts to season migration or movement corridors for these species. Significant impacts from energy projects to bighorn sheep movement among occupied areas and to opportunities to recolonize vacant habitat have been recognized at other energy development sites, including in California's Cady Mountains at the Calico Solar Project. *See* Transcript of August 5, 2010 Evidentiary Hearing Before the Cal. Energy Resources

[4] National Research Council, Committee on Environmental Impacts of Wind Energy Projects. 2007. The Environmental Impacts of Wind Energy Projects. National Academies Press, Washington D.C. This is included on the enclosed CD-ROM.

[5] Baerwald, E. F., G. H. D'Amours, B. J. Klugand, R. M. R. Barclay. 2008. Barotrauma is a significant cause of bat fatalities at wind turbines. Current Biology, 16:695-696. This document is included on the enclosed CD-ROM.

EIS includes the available information provided by Nevada Department of Wildlife. Additionally, a map of potential habitat based on vegetation and topography was included in the EIS. Appendix B-3: Terrestrial Wildlife Plan has been prepared for the project and includes a risk assessment and mitigation measures for bighorn sheep.

Conservation & Development Comm. at 300–16 (Testimony of Dr. Vernon Bleitch), enclosed on CD-ROM as "2010-08-05_Transcript – CEC"). The bighorn sheep in the Cady Mountains, like those in the area of the Searchlight project, move among different habitat areas in surrounding mountain ranges in search of forage and water resources. *Id.* at 302, 305. A project site that impedes such movement disrupts the metapopulation in the area and results in fragmentation of bighorn sheep habitat, and will result in serious impacts to bighorn sheep. *Id.* at 307–14. Please evaluate Dr. Bleitch's testimony and assess how the impacts describe are, or are not, present for the Searchlight site.

The DEIS states that *if* Bighorn sheep are impacted by the operation of the facility, mitigation measures *may* be needed. DEIS at 4-37. But the DEIS already has established that mitigation *is* needed. The Terrestrial Wildlife Plan has not been created yet—this situation should be studied now and the bighorn herd movements researched with a telemetry study before construction blocks or disturbs movement corridors through the area. This information should be disclosed in a supplemental DEIS. What mitigation measures would be enacted in the future? Would the operating turbine facility be moved, or shut down? Again BLM has failed to comply with NEPA by disclosing no information about mitigation or its potential efficacy.

Construction of the Searchlight Wind Project would fragment crucial lower elevation foraging areas for bighorn sheep, as well as fragmenting and blocking the migration routes from the Newberry to the Eldorado mountains. BLM and the applicant have not evaluated how noise from blasting, other construction, and operation of the turbines (described in the section on desert tortoise, above) will affect bighorn sheep movement, nor delineated the area of potential impact. BLM has not identified whether particular areas on or surrounding the project site are of particular importance to bighorn sheep as lambing areas, and therefore has no baseline from which to evaluate the impacts of the project on bighorn sheep movement in this area. Because these data and subsequent analysis are lacking for this sensitive species, the DEIS fails to comply with NEPA.

It is well-documented that human disturbance in bighorn sheep habitat disrupts bighorn sheep and contributes to population decline. *See, e.g.*, Kathryn A. Schoenecker and Paul R. Krausman, Human Disturbance in Bighorn Sheep Habitat (enclosed on CD-ROM); Papouchis *et al.* 2001, Responses of Desert Bighorn Sheep to Increased Human Recreation, The Journal of Wildlife Management 65(3): 573-582 (enclosed on CD-ROM). The DEIS does not consider these effects, or the likelihood that installation of an industrial-scale wind energy project with more than eight miles of transmission line will have even greater impacts than a few hikers with dogs. Wildlife impacts from noise, including from wind power projects, are well documented. In addition, several other energy projects are being developed in the region in bighorn sheep habitat; BLM must disclose and evaluate the cumulative impact of these projects on this species.

Migratory big game species like bighorn sheep serve an important stabilizing function in ecosystems, acting as keystone species (Kie & Lehmkuhl, 2001) (on the enclosed CD-ROM). The halting or change in movements can have a destabilizing effect on vegetative communities and species interactions, even on otherwise intact ecological systems such as largely unroaded areas (Kie & Lehmkuhl, 2001). Maintaining secure winter range is necessary for migrating and

Appendix B-3: Terrestrial Wildlife Plan has been prepared for the project and includes a risk assessment and mitigation measures for bighorn sheep.

The EIS includes the available information provided by Nevada Department of Wildlife. Additionally, a map of potential habitat based on vegetation and topography was included in the EIS.

Potential impacts to bighorn sheep are addressed in Section 4.4.5.14-Game - Direct and Indirect Effects by Alternative. Potential noise impacts to wildlife are addressed in Section 4.4.4-Wildlife. Appendix B-3: Terrestrial Wildlife Plan has been prepared for the project and includes a risk assessment and mitigation measures for bighorn sheep.

The proposed project would permanently remove only 152 acres of wildlife habitat, which is less than 1% of the habitat in the project ROW area (18, 949 acres of BLM-managed land).

resident populations of big game species to thrive in the area. Here, the project would obliterate 503 acres of bighorn sheep winter range.

A big game monitoring study completed by Western Ecosystems Technology Inc. (WEST) at Horizon's Elkhorn Valley Wind Project in northeastern Oregon (a 100.65 MW project) evaluated the impacts of wind energy on big game (Jeffery et al., *Elkhorn Valley Wind Project, Union County, Oregon, Big Game Monitoring Study Report*, January 2010 (on the enclosed CD-ROM)). In a letter to the project manager for the proposed Antelope Ridge Wind Project (300 MW) near the Elkhorn project, the Oregon Department of Fish & Wildlife said that the statistics in the WEST study indicated that, "elk and deer were located further from wind turbines and associated activities in winter 2008 and 2009 compared to the baseline of 2004 and 2005 prior to initiation of construction." *See* Exhibit 16, ODFW letter to Valerie Franklin, Project Manager, Antelope Ridge Wind Farm, May 31, 2010. Please use this information regarding effects of industrial-scale wind energy on big game species to assess the potential impacts to bighorn sheep from the Searchlight Wind Project. This should include more study into the use of big game in the area by conducting flight surveys.

The DEIS provides no support or evidence for any of its conclusory statements about the likelihood of effects of the project on bighorn sheep. For example, the DEIS states that impacts would be "minimal." DEIS at 4-37. This statement is unsupported by any study, and contrasts with evidence (such as the study at the Elkhorn Valley Wind Project, above) that big game do avoid transmission lines and turbines and therefore will be driven and impeded from their current habitat in the Searchlight Hills and surrounding mountains by the proposed project.

4. The DEIS does not adequately address impacts to bats and other sensitive species.

Bats

The DEIS did not adequately describe the treats to bats from the project. Once again, without any scientific or evidentiary basis, BLM provides only a general statement of possible effects, a note that mitigation (in the form of the ABPP) will be developed at some future point, and states that the number of bats that could be injured or killed "cannot be estimated." DEIS at 4-34. But BLM *has* estimated likely bat fatalities at the Echanis wind energy generation site in Oregon, estimating that "the 40 to 69 turbines at the Echanis Project site would cause from 28 to 235 bat deaths per year." Exhibit 11 at 1–2 (pages 3.5-22 to 3.5-23). The same number of species of bats (14) was identified in the Echanis project area as are present at Searchlight. DEIS at 3-28. A similar number of these species are BLM sensitive species. What is so deficient about the BLM in Nevada that it cannot provide an estimate for bat deaths at a 200 MW wind project when its counterpart in Oregon has no difficulty doing so for a 104 MW generation site? What is so deficient in the operation of BLM's Southern Nevada District that it cannot provide an estimate for bat deaths from the Searchlight Wind Project when BLM's Ely District had no difficulty estimating that 192 bats per year would be killed by the Spring Valley Wind Project? Exhibit 17. Please explain whether there any reason that the Southern Nevada District is not capable of conducting and disclosing high quality information about likely effects to bats?

In accordance with 40 CFR 1502.2 Environmental Impact Statements shall be analytic rather than encyclopedic. Potential impacts to bighorn sheep are addressed in Section 4.4.5.14-Game - Direct and Indirect Effects by Alternative., and identify that the proposed project may cause bighorn sheep to avoid the area. Appendix B-3: Terrestrial Wildlife Plan has been prepared for the project and includes a risk assessment and mitigation measures for bighorn sheep.

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution, barotrauma) on bats.

The wide estimation range presented in the citation (28-235 bat deaths per year) exemplifies the difficultly in predicting mortality and providing meaningful information to decision-makers.

The DEIS does not comply with NEPA or BLM's obligations to minimize harm to sensitive species. The DEIS dramatically understates the potential harm to bats, including sensitive species bats, from the project. Bats are prone to many of the same threats as avian species. There are significant and growing concerns about impacts of wind turbines on bats. Bats have low reproduction rates and high mortality rates from collisions with turbines or transmission lines could result population declines.[6]

Studies have documented that some wind facilities kill thousands of bats each year.[7] However, research on bat mortality is limited and concerns about bats grew as researchers began to discover high numbers of bats during avian mortality surveys for birds by wind energy facilities. The level of bat mortality now occurring at existing wind installations around the country raises questions about the long-term population viability of those bat species most vulnerable to wind turbines, to the point that some bat scientists and advocates are considering whether they warrant listing under the federal Endangered Species Act. The prospect of significant population declines, even extirpation, for several or most species of bats, is possible. These long-lived animals, with low reproductive rates, are notoriously vulnerable to mortality setbacks. Bat populations are already under stress from a variety of threats, including habitat loss, pollution, and possibly climate change.

The bat species at highest risk from wind energy development are long-distance latitudinal migrants, which may be present during the fall migration season when bat kills at wind facilities typically peak.[8] The studies done for these sites fall short and more research is needed to understand the amount of migrants going through the area around the Echanis, East Ridge, and West Ridge sites. With the increasing number of wind facilities, wind turbine heights have also increased. Recent research indicates that taller turbines pose a greater threat to bats than shorter turbines.[9] The wind turbines preliminarily planned for the generation sites are over 400 feet high, from base to rotor tip, presenting an unusually high risk for bat mortality. Recent research has revealed that at least some bats killed at wind facilities are dying not because of collisions with turbine towers or blades, but because of sudden drops in barometric pressure. In other words, as bats approach moving turbine blades, they experience something like a sudden and severe case of the "bends."[10] This causes their lungs to essentially explode.

---

[6] http://www.batsandwind.org/pdf/Wind%20Energy%20Development%20and%20Wildlife%20Conservation.pdf (Kuvlesky et al. 2007) (on enclosed CD-ROM).

[7] http://www.fort.usgs.gov/BatsWindmills (USGS, 2010) (on enclosed CD-ROM).

[8] http://www.fort.usgs.gov/Products/Publications/22170/22170.pdf (Cryan, 2008) (on enclosed CD-ROM).

[9] *See id.*

[10] http://www.newscientist.com/article/dn14593-wind-turbines-make-bat-lungs-explode.html?feedId=online-news_rss20 (Brahic, 2008) (on enclosed CD-ROM).

Potential impacts to bats are discussed in Section 4.4.5.8-Bats - Direct and Indirect Effects by Alternative. A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution) on bats and the adaptive mitigation measures.

Comment noted.

Although the DEIS mentions barotrauma, it makes no effort to analyze the scope of this problem at the Searchlight site. DEIS at 4-34. Obviously, these concerns regarding drops in barometric pressure near turbines extend to other avian species that might come near the turbines. Stipulations for operation of the turbines need to take into account the latest science on how bats are being killed, and adjust operations accordingly. Turbines may need to be shutdown during times of the year and on nights when conditions are most conducive to bat mortality. Stipulations of this nature can be a condition of the generation project ROW and the DEIS should evaluate certain conditions in a DEIS supplement.

Bat scientists now hypothesize that the bat species dying at the highest rates at wind energy facilities are, in fact, attracted to the turbines. *See* Exhibit 18. Pre-siting studies are necessary to evaluate where bats are present on the site, and a proper evaluation of the impacts would disclose potential mitigation measures. It would be desirable for a permitting agency to set a limit on bat deaths, and require swift adaptive actions, including shutdown of the facility—temporary or permanent—if fatality thresholds are exceeded. Similar provisions should be included for other wildlife species. Seasonal shut down of wind turbines, particularly during the late summer/fall migratory period, is currently being examined as one way of reducing bat mortalities at other locations.[11] Obviously, while these techniques may enable a wind facility to operate with minimal threat to bats throughout the rest of the year, wind developers will be concerned about the economic impact of temporary shutdown, and may resist this strategy to reduce bat deaths. However, evaluation of these mitigation techniques, after adequate information has been obtained regarding bats at these sites and site-specific impacts, should be undertaken as part of a supplemental DEIS.

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution, barotrauma) on bats.

Gila Monster and Chuckwalla

Both Gila monsters and chuckwallas are BLM Sensitive Species in Nevada and the management direction from BLM Manual 6840.2 applies as previously described. The Gila monster is also protected under Nevada law. The limited survey of the site, which covered only only a fraction of the project area, detected no Gila monster, but it is clear that "the preferred habitat of the banded Gila monster exists within the survey corridor and the exterior belt transects." Terrestrial Wildlife Survey Spring 2011 at 6; *see* DEIS at 3-27. Recognizing the presence of Gila monster habitat, the survey noted that "[t]he Gila monster is rarely observed relative to other species, and given the difficulty of detection (NDOW 2007), though likely rare, absence cannot be concluded." Terrestrial Wildlife Survey Spring 2006 at 6.

Handling and relocation measures for Gila monsters would be in compliance with NDOW guidance as stated in MM-BIO-4. More specific mitigation measures have been developed in the Terrestrial Mitigation and Monitoring Plan (Appendix B-3: Terrestrial Wildlife Plan).

Mitigation measure "Bio-04" for Gila monsters and chuckwallas proposes capture and relocation as the mitigation strategy if the lizard is encountered. DEIS at 2-44. Relocation of banded Gila monster has been shown to be an ineffective strategy.[12] Similar to desert tortoises, the Gila monsters try to return to their original sites despite relocation distances. Effective

[11] http://www.batsandwind.org/main.asp?page=research&sub=operational (BWEC, 2008) (on enclosed CD-ROM).
[12] Sullivan, B.K., M.A. Kwiatkowski, G.W. Schuett 2004. Translocation of Urban Gila Monsters: a Problematic Conservation Tool. Biological Conservation 117L 235-242.

mitigation for these species needs to include strategies that will minimize mortality. In addition, BLM does not evaluate the potential effects of blasting that will be necessary during construction, but rather only discusses "grading" impacts. DEIS at 4-33. How will the noise and shock effects of blasting affect these sensitive species?

The DEIS admits that Gila monsters are difficult to survey for and provides very little other information about mitigation and avoidance of the species. DEIS at 3-27. This is not adequate to satisfy NEPA. The BLM's statements regarding potential that Gila monster and chuckwalla "could be crushed, injured or killed during construction" and that "increased traffic during operation and maintenance could increase the potential for reptile/vehicle collisions to cause Gila monster and chuckwalla injury or death" (DEIS at xv, *see also id.* at 4-33) are precisely the type of "[g]eneral statements about possible effects and some risk" that the Ninth Circuit has rejected as legally insufficient in the absence of an explanation as to why more definitive information was unavailable. *Klamath–Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 993 (9th Cir.2004) (internal quotation marks omitted); *see id.* at 994 (rejecting as insufficient statements that a particular environmental factor was "unchanged," "improved," or "degraded" and whether the change was "major" or "minor").

Because of the lack of comprehensive surveys, the DEIS failed to adequately analyze the impacts that the proposed project would have on Gila monsters and chuckwallas including direct, indirect and cumulative impacts to these species and failed to adequately identify and evaluate potential alternatives that would avoid or minimize the impacts of the project on these species.

B. The discussion of mitigation measures throughout the DEIS is inadequate.

An EIS must do more than provide a perfunctory description of possible mitigation measures. *Okanogan Highlands Alliance v. Williams*, 236 F.3d 468, 473 (9th Cir. 2000). An EIS is not complete unless it contains "a reasonably complete discussion of possible mitigation measures." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 352, 109 S.Ct. 1835, 104 L.Ed.2d 351 (1989). That requirement is implicit in NEPA's demand that an EIS must discuss "'any adverse environmental effects which cannot be avoided should the proposal be implemented.'" *Id.* at 351-52, 109 S.Ct. 1835 (quoting NEPA, 42 U.S.C. § 4332(C)(ii)); *see also* 40 C.F.R. § 1502.16(h) (stating that an EIS must contain "[m]eans to mitigate adverse environmental impacts"). An agency must take a "hard look" at potential mitigating measures; a perfunctory description, or a mere listing, of mitigating measures, without supporting analytical data, violates NEPA. *Okanogan Highlands Alliance*, 236 F.3d at 473.

NEPA regulations require that the BLM discuss possible mitigation measures as a means to "mitigate adverse environmental impacts." 40 C.F.R. § 1502.16(h). An adequate discussion of mitigation measures requires the agency to analyze the effectiveness of the proposed mitigation. *S. Fork Band*, 588 F.3d at 727. This allows the public, the decisionmaker, and any reviewing court to determine "whether they constitute an adequate buffer against the negative impacts that may result from the authorized activity." *Nat'l Parks & Conservation Ass'n*, 241 F.3d at 734. To comply with NEPA, mitigation measures proposed in an EIS "must be developed to a reasonable

Although Gila monsters are difficult to detect, during pre-project tortoise and chuckwalla surveys, biologists looked specifically for Gila monster and sign. Although no animals or sign were detected, the DEIS states that Gila monster habitat is present; therefore, the animals may reside in the project area. Preconstruction surveys as described under APM-13 Environmental Clearance would help to locate Gila monsters immediately prior to construction activities and animals would be removed per NDOW protocol as stated in MM-BIO-4.

Currently, no official protocols for Gila monster surveys exist. However, during pre-project tortoise and chuckwalla surveys, biologists looked specifically for Gila monster and sign. Although no animals or sign were detected, the DEIS states that Gila monster habitat is present; therefore, the animals may reside in the project area.

A discussion of all mitigation measures is included in the EIS. BLM requires that mitigation measures are implemented as a stipulation of the ROD and/or ROW Grant. Development of mitigation plans often requires input, review, and approval by other regulating agencies such as USFWS, NDEP, DAQ, and NDOT. As such these plans are not typically completed prior to a Final EIS. However, all the elements and basic requirements of the mitigation plans are discussed throughout the EIS. Additionally, a number of mitigation plans have been completed and are included as follows Appendix B-1: Weed Management Plan, Appendix B-2: USFWS Biological Opinion, Appendix B-3: Terrestrial Wildlife Plan, and Appendix B-4: Bird and Bat Conservation Strategy.

degree. A perfunctory description, or 'mere listing' of mitigation measures, without supporting analytical data" is insufficient. *Id.* (quoting *Idaho Sporting Cong.*, 137 F.3d at 1151).

The DEIS does not comply with the basic requirement under NEPA that include supporting analytical data that explains how mitigation might actually prevent harmful effects. Rather, it simply lists possible mitigation measures, but provides no details or analysis of how, or whether, the measures would actually mitigate the likely adverse impacts described. Part of this stems from the failures documented above to disclose accurate, quantified and detailed information about likely impacts. But mostly this is a failure to make the analytical connection required under NEPA.

The principle deficiency in the DEIS's discussion of mitigation is that none of the proposed "mitigation" plans have been completed. BLM must prepare a supplemental DEIS once the plans are completed. For example, the Emergency Response Plan, Waste Management Plan, Weed Control Plan, Facility Decommissioning Plan, Wildlife Mitigation and Monitoring Plan, such as for Gila Monster, Terrestrial Wildlife Plan for Bighorn sheep, Traffic Management Plan, Hazardous Materials Handling Management Program, Cactus and Yucca Salvage Plan, Stormwater Pollution Prevention Plan, and the Spill Prevention, Control, and Countermeasures Plan should be completed, and released for public review, as part of the supplemental EIS to allow the public to participate meaningfully in the decision making process—not deferred until after project approval. There also is no meaningful way for the Secretary or BLM to make a non-arbitrary decision about whether to approve the ROW applications unless the agency's decisionmakers have the accurate information in hand about what mitigation is actually being proposed, and also have (consistent with NEPA) the public's views on the subject.

For example, the discussion of mitigation in the section on wildlife describes a future "Wildlife Mitigation and Monitoring Plan" and a "Terrestrial Wildlife Plan." DEIS at 2-44 to 2-45; 4-33; 4-37. These "Plans" do not describe what mechanisms would be used or what the practical consequences would be for preventing or minimizing damage to habitat. There is no explanation how or whether these "Plans" to be developed at some future point actually would be effective in mitigating adverse environmental effects. The entire suite of mitigation described at 2-43 to 2-45 related to wildlife requires additional description and scientific citation and justification. Any plans to "mitigate" the acknowledge adverse effects on wildlife must be fully outlined with dates, actions, and rationale that can justify the actions. There should be a full description of where off-site mitigation will occur and a full description of on-site mitigation measures that will be adopted for the project site. What exists is not a reasonable discussion of "mitigation" as required by NEPA.

Similar deficiencies in descriptions of mitigation occur in the sections involving other impacts (*e.g.* DEIS at 2-34, referencing best management practices ("BMPs") and design features) but—largely because most of the plans are not yet developed—not explaining how they would mitigate the negative effects described in the DEIS. *See* DEIS at 2-35 to 2-50 and all discussion of "mitigation" at 4-10 to 4-122. None of these descriptions of the plans, nor the later sections in the DEIS that discuss mitigation, provide any detail nor explain how the mitigation measures will work or whether they will be effective. None of the mitigation measures described

Sections of the EIS have been updated to explain how mitigation measures would reduce impacts.

BLM requires that mitigation measures would be implemented as a stipulation the ROW Grant. Development of mitigation plans often requires input, review, and approval by other regulating agencies such as USFWS, NDEP, DAQ, and NDOT. As such these plans are not typically completed prior to a Final EIS. However, all the elements and basic requirements of the mitigation plans are discussed throughout the EIS.

The Weed Management Plan was included in the DEIS (Appendix B-1: Weed Management Plan). The EIS has been updated to include the following completed mitigation: Appendix B-2: USFWS Biological Opinion, Appendix B-3: Terrestrial Wildlife Plan and Appendix B-4: Bird and Bat Conservation Strategy

in the DEIS involve a "hard look" that includes analysis of their likely effectiveness, but rather are impermissible listings and perfunctory descriptions of possible mitigation measures.

Please evaluate the following specific comments related to mitigation measures as you develop a more detailed disclosure and evaluation of the mitigation measures and their likely effectiveness:

DEIS at 2-37: How wide is the area to be graded prior to trenching? Will yucca, cholla, and Joshua trees be removed and placed in a nursery for transplanting, or is it true that, as stated, "Organic matter will be mulched"? These plants are hundreds of years old. How can the BLM issue a ROD condoning this amount of destruction of pristine desert.

Under MM-BIO-2 a Cactus and Yucca Salvage Plan would be developed. Text in Section 4.4-Biological Resources Impacts in the EIS has been updated to reflect the elements of this plan.

DEIS at 2-39: What is the status project approval by the FAA? Safety at this air field should not be compromised by the turbines. In addition, plans exist to build homes and businesses around the airport. The necessary infrastructure has been installed. If and when the economy turns around, this project would be viable. However, if the wind turbines are built, the airport project will never be built.

Status of FAA approval is pending. Input from Searchlight Airport Facilities Manager was received during scoping and was taken into consideration in developing the proposed project.

DEIS at 2-40: This states the O&M Building and associated septic system would require a wellhead protection plan. Will there be a well at the O&M Building in the future? Are there private wells nearby that could be compromised by the septic system?

A wellhead protection plan is a State of Nevada standard for all septic systems. A well is not part of the proposed project. No private wells are anticipated to be effected.

DEIS at 2-43: The DEIS states "Desert tortoise fencing would be installed around Western's proposed switching station." Will the roads and turbine pads also have tortoise fencing? The high number of tortoises counted in the area would indicate that ALL areas of construction should be fenced.

The fencing proposed around the switching station would be permanent. Permanent fencing around roads and turbine pads has not been proposed because this would fragment tortoise habitat and result in unnecessary disturbance.

DEIS at 2-44: Sixteen varieties of bats frequent and live in the area. How will their roosts in mine shafts and natural caves be monitored during blasting and construction to ensure that no disturbance is taking place?

Monitoring of bat roosts would occur in compliance with the Bird and Bat Conservation Strategy (Appendix B-4: Bird and Bat Conservation Strategy).

DEIS at 2-46: The DEIS states "To further reduce effects to the US-95/ Cottonwood Cove Road intersection, the Plan will identify an alternate access route to the Proposed Project site during peak construction if possible." We suggest the "planners" look at a map of the town of Searchlight. The only "alternate routes" would be through residential areas with roads even narrower than the 24-foot wide Cottonwood Cove Road. These narrow side streets also have 90 degree turns that would not accommodate construction traffic.

Text regarding alternate route has been removed from the document.

Utility poles are also immediately adjacent to the Cottonwood Cove Road. Will the developer move these poles to ensure no disruption of service to the people who live there? There are narrow walking paths immediately adjacent to Cottonwood Cove Road in Searchlight, which locals use to walk to the library and park, and children use to walk to the elementary school. Construction and traffic of the magnitude planned has the potential to create daily life-threatening situations for the people who live in Searchlight and are simply trying to go about their lives.

There are no plans to move any existing utility poles. Refer to MM-TRAN-1 for a description of elements that would include in the Traffic Management Plan that would be prepared to address effects on local traffic (Table 2.6-2. Mitigation Measures and Section 4.7-Transportation Impacts). A Traffic Management Plan would be a stipulation of the ROW Grant.

"Providing alternate transportation routes should temporary road closures be required." Again, it is theoretically possible that people attempting to tow their boats to Cottonwood Cove could be routed through the residential areas, but once you get to the area at the Community Center, THERE IS BUT ONE ROAD THAT GOES 14 MILES EAST TO COTTONWOOD COVE. There is simply no other way to get there. Do BLM and Duke propose to build new roads to route traffic through the existing ACEC and/or nearby wilderness areas? How will they deal with the boaters arriving to gridlock, having towed their boats for hundreds of miles to recreate on Lake Mohave?

Text regarding alternate routes has been removed from the document.

DEIS at 2-46: The DEIS does not disclose that Cottonwood Cove Road is in poor condition already. If it is repaired to "preconstruction condition", nothing is gained. What guarantee is there that Searchlight, Clark County and the State of Nevada won't be left holding the bag for massive road repair costs? The weight of vehicles necessary to transport turbines and tower components and the cranes to erect the turbines are likely to cause serious damage to this rural road. Exhibit 8.

In Section 4.7-Transportation Impacts, the BLM disclosed that streets could receive wear from equipment and deliveries and has required a mitigation measure to address the effect. Refer to MM TRAN-2: Repair Damaged Streets for a description of the mitigation mearure (Table 2.6-2. Mitigation Measures and Section 4.7-Transportation Impacts).

DEIS at 2-46: The proposed mitigation of visual impacts is not clearly defined. There simply is no way for the public to know whether BLM actually will "select BLM approved Flat Tone Colors for All Structures" and actually paint the turbines a "BLM-approved Standard Environmental Color intended to blend with the surrounding environment." The DEIS presents conflicting information that "[a]ny color other than white will need to be approved by the FAA. If a color is not easily distinguishable for pilots, daytime strobe lights will be needed, thus negating the mitigation." So, in fact, there will be *no* mitigation for visual impacts: either the color will be white (negating BLM's claim that the color will "blend" with the environment) *or* the turbines will carry daytime strobe lights. BLM has an obligation to provide the information to the public *now* about what the turbines actually will look like, and what FAA will, or will not, approve.

Visual Mitigation measures are discussed in Section 4.9-Visual Resources Impacts. Visual simulations depict the turbines as white, which would be the "worst-cast scenario," if the FAA would not allow an alternate color.

More obviously and fundamentally, there is no way to disguise 87 428-foot tall structures in pristine desert.

DEIS at 2-47: According to the DEIS, construction noise can be mitigated, with the exception of the blasting that will be necessary in the granitic bedrock, for which there is no discussion of mitigation. Yet blasting is certain to occur: how do BLM and Duke propose to mitigate the noise and effects from blasting? How does applicant propose to "mitigate" the noise of the operating turbines?

Refer to MM-NOI-1, which updated to include that blasting will be limited to 8am to 5pm weekdays only (Table 2.6-2. Mitigation Measures and Section 4.10-Noise Impacts). Areas will be quarantined prior to blast activity. MM-NOI—3 has been updated to include that an audible warning system will be used notifying public of pending blasting activities.

DEIS at 2-48. The DEIS makes a patently false and uninformed statement that "[n]o adverse effects on socioeconomics condition are anticipated; therefore, no mitigation measures are proposed." It is difficult to believe that BLM would make such a false statement. Property values will plummet even further than they already have; residents will move away; tourism will dwindle; local businesses dependent on tourism will fail; and the small town of Searchlight will never be able to expand beyond its present size. No one will develop anything other than more wind turbines, or possibly a hazardous waste dump, close to wind turbines that stand 430 feet tall, create 24-hour per day noise, despoil the viewshed, and have flashing lights day and night.

Commenter's assertion is speculative and not supported by literature. Section 4.12-Socioeconomic Impacts has been updated to include potential effects on recreation and tourism. For further information see the newly added Appendix F: Literature Review of Socioeconomic Effects of Wind Projects and Transmission Lines..

In addition, the project map prepared by VTN dated 11-10-2009 neglects to show a number of private holdings located at the northwest part of the project. A copy of this high-resolution map is included on the CD-ROM ("Figure 1 Duke SWEP Project Area - LARGE MAP"), and should be incorporated into the DEIS to show the topography and more accurate information about the project site and surrounding areas. There are approximately six different landowners there, and at least six occupied residences. Why are these not shown on the project drawings?

The VTN map dated 11-10-09 is not part of the EIS. The Figures in the EIS include the private parcels in the northwestern portion of the project area and effects to those parcels have been analyzed in appropriate sections of the EIS figures and analysis. Figure 2.1-1. 96 WTG Layout Alternative and Figure 2.1-2. 87 WTG Layout Alternative have been revised to reflect area topography.

C. The DEIS fails to disclose and evaluate adequately the likely impacts of the project on visual and scenic resources.

The DEIS's disclosure of the project's impacts to visual resources is misleading, deceptive, and incomplete. The scenic resources of Southern Nevada that would be affected by the proposed industrial-scale generation site and transmission lines are of national significance. This project would be built adjacent to outstanding conservation areas and the impact to visual resources will degrade the visitor experience. The project would be placed next to the Lake Mead NRA, the Piute-El Dorado Valley ACEC, the Wee Thump Wilderness Area, the McCullough Mountains Wilderness Area. The project will be highly visible from Spirit Mountain, sacred to many Colorado River Tribes. The project will also be highly visible from several regions in the Mojave National Preserve, California. Areas that will be impacted are the Castle Mountains, the Castle Peaks, the New York Mountains and the Piute Range. The DEIS hardly mentions the breadth of these visual impacts.

Key observation points were identified during project scoping and provide a range of representative views in the project area.

This warrants the utmost care in consulting with expert agencies to ensure that the decision-making agencies have impartial and objective analysis of the likely impacts to the environment. BLM in the DEIS has provided no independent input regarding the affected visual resources, relying instead on a study apparently prepared entirely by the applicant's consultant, NewFields Environmental Planning and Compliance. *See* DEIS at 5-5 (listing Anne DuBarton, who prepared the visual simulations in Appendix E, as part of the "NewFields team.").

NewFields is an independent third party contractor supporting the BLM with preparation of this NEPA document, as is Truescape, the firm that developed the visual simulations. These firms have no financial interest in the outcome of the project. The contrast ratings and visual simulations were reviewed and approved by BLM visual resources specialists in accordance with VRI BLM Manual Handbook H-8431-1.

Also, the DEIS contains no evaluation of whether the visual impacts of the project are compatible with BLM's minimization obligations under FLPMA and the Wilderness Act. The Wilderness Act requires that wilderness areas "shall be administered … in such a manner as to leave them unimpaired for future use and enjoyment as wilderness … [and] the preservation of their wilderness character." 16 U.S.C. § 1311(a). The Act also requires that "each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area…." *Id.* § 1133(b). BLM, as the administering agency of the six Wilderness Areas from which the Searchlight Wind Project will be visible, has the obligation to prevent visual impacts to these areas. *See, e.g., Sierra Club Northstar Chapter v. Kimbell*, 2008 WL 4287424 (D. Minn. 2008) ("actions occurring on adjacent non-wilderness lands that have an impact on designated wilderness are regulated by the Wilderness Act"); DEIS at 3-51. BLM cannot allow projects on public lands adjoining a Wilderness to become so intense, incompatible, or intrusive that a designated Wilderness Area is degraded or is no longer a wilderness. An agency action that degrades the wilderness character of a designated Wilderness Area—

The visual impacts are in compliance with the VRM III Class designation for the area. The Wilderness area was not identified as a public area of concern during project scoping. However, 17 other KOPs were selected during project scoping and these areas provide an adequate representation of visual impacts throughout the viewshed.

regardless of the source of the allegedly degrading activity—violates the Wilderness Act's requirement that the agency preserve wilderness character. *Izaak Walton League of America, Inc. v. Kimbell*, 516 F. Supp. 2d 982, 988–89 (D. Minn. 2007). Here, BLM has provided no simulations of visual impacts to the wilderness character of designated Wilderness within visual range of the proposed project. *See* DEIS Sections 3.9, 4.9 (Visual Resources, Visual Impacts sections containing no discussion of impacts to designated Wilderness Areas).

BLM must collect and evaluate its own visual impacts analysis, rather than rely on one prepared by the developer's consultant, and disclose it to the public for review. This is particularly true because of serious deficiencies in the visual impacts analysis presented in the DEIS. NEPA case law and guidance are clear that an applicant and its consultants should not be allowed to influence the analytical content of an EIS. *See, e.g., Sierra Club v. Sigler*, 695 F.2d 957, 962 n.3 (5th Cir. 1983) (expressing serious concern over role of private firm in preparation of EIS). An EIS must be an entirely objective analysis intended to aid the decision makers and the public in understanding the consequences of an agency decision. Thus, it is standard practice for action agencies to ensure that applicants for federal action are insulated from all aspects of EIS preparation other than providing information. It is ultimately BLM's responsibility, and not that of any consultants, to independently verify the DEIS's content. The agencies are "responsible for the independent verification and use of the data, evaluation of the environmental issues, and . . . the scope and content of the environmental assessment." *Save Our Wetlands v. Sands*, 711 F.2d 634, 642 (5th Cir. 1983).

Given the extremely biased nature of the DEIS, and the visual impacts section in particular, and the apparent lack of meaningful involvement by agency personnel, it is doubtful that BLM is meeting this responsibility. There is no evidence of independent analysis on the part of BLM in the DEIS. Although NEPA regulations allow an applicant to prepare a NEPA document, the agency must independently evaluate the information and is responsible for its accuracy and make its own evaluation of the environmental issues and take responsibility for the scope and content of the document. 40 C.F.R. § 1506.5.

1. The DEIS presents deceptive and contradictory information about turbine color.

As noted above, the DEIS does not actually disclose what color the turbines will be. DEIS 2-46. The DEIS frankly acknowledges that "[d]ue to the height of the [turbines] and the oscillating motion of the blades, it is difficult to make the towers blend into the landscape" and that a flat gray paint color "will tone down the usual white design." *Id.* However, any color *other* than white has to be approved by the Federal Aviation Administration. *Id.* and any color "not easily distinguishable for pilots" will result in daytime strobe lights on the turbines. *Id.* and *id.* at 4-77. Therefore BLM has failed to disclose what the *actual* visual impacts of the project will be. Either the turbines will be painted white, or the turbines will carry daytime strobe lights.

But BLM does not reflect this in the visual simulations it provides. The Appendix E Key Observation Point ("KOP") Visual Contrast Worksheet Forms (Appendix E) state for all of the KOPs under "proposed activity description" that the color of the structures will be "white." However, the "simulations"—most clearly visible in the Appendix E simulations for KOPs 14

NewFields is an independent third party contractor supporting the BLM with preparation of this NEPA document, as is Truescape, the firm that developed the visual simulations. These firms have no financial interest in the outcome of the project. The contrast ratings and visual simulations were reviewed and approved by BLM visual resources specialists in accordance with VRM BLM Manual Handbook H-8431-1.

FAA will determine if the turbines will be white or equipped with strobes. Visual simulations in the EIS depict the WTGs in white, which would have the highest degree of contrast and is; therefore, the worst-case scenario.

Truescape confirms that the turbines depicted in the visual simulations were white. The simulations accurately depict what the perceived color of the turbines would be under the lighting conditions of when the site photo was taken. Time of day, angle and direction of sunlight, cloud cover and other light conditions were factored into illustrating their appearance as off-white or gray in some situations.

and 15—show gray-painted turbines *without* daytime strobe lights. By the terms of the DEIS itself, there is no way that the turbines depicted in the simulations actually will be built: either they will be white (which BLM acknowledges makes it difficult to blend into the landscape), or they will carry visually disturbing strobe lights. In either instance, the simulations in Appendix E do not reflect the reality of either of the potential visual impacts.

The simulations are therefore not accurate and "high-quality" information which NEPA requires be supplied to the public for comment and to the decisionmaker to make a non-arbitrary decision on the ROW applications. Because the FAA has to approve the design, BLM should get that approval *first* and then present to the public simulations that depict what the actual appearance of the turbines—white, or grey with flashing strobe lights—will be. It is not acceptable to try to present visual "simulations" that do not reflect either of the possible visual impact scenarios the FAA might approve.

2. The photo simulations in the DEIS are misleading and present an inaccurate representation of the likely visual and scenic effects.

There are several elements of the DEIS's analysis of impacts to visual and scenic resources that are flawed and make the evaluation of impacts incomplete. The photo simulations of turbine impacts illustrated in the DEIS are highly misleading. There are several reasons for this. First, the photographs appear to have been taken with a wide angle lens in panoramic mode, causing objects in the distance to appear smaller than they would to the naked eye. Secondly, the photos were taken when the atmosphere was hazy. It is during the crystal-clear days that the views are most dramatic and would therefore be the most affected by the presence of turbines. The analysis should take into account those days when the visual impacts will be most severe, and also which represent the most common atmospheric conditions in the arid lands of Southern Nevada; the photos appear to be trying to downplay the impacts. Readily available photographs of other industrial-scale wind energy development projects, with the same approximate scale and distance, show that actual industrial-scale wind energy installations are far more prominent in reality than the simulations in the DEIS. Exhibit 19 (photograph of Elkhorn Valley wind project in Union County, Oregon (100.65 MW), taken from at least 3 miles away—turbines are highly visible even though photograph is smaller and lower-resolution than those in the DEIS).

The flaws in the visual impacts analysis are evaluated and described in additional detail in the comments on KOPs 2, 8, 14, and 15 by R.T. Bundorf, attached as Exhibit 20. We conclude that, to accurately depict what the human eye would see at these locations, a view covering only about 1/6 of the wide-angle photographs actually presented should have been displayed. In properly-scaled photographs, as depicted in Exhibit 20, the visual impact from the turbines is dramatically greater than the DEIS discloses. In addition, as described above, the grey color of the turbines in the simulation (*see* Exhibit 20 at 5–9) is misleading because that will either not be the color the turbines actually are painted, or they will carry flashing daytime strobe lights. Also, at least one of the simulation photographs (from KOP 2) does not appear to contain any turbines at all, although from the location of the KOP (approximately 3.5 miles from the project site), turbines should be visible. This may be an error that BLM must independently evaluate and correct in a supplemental DEIS.

Visual simulations were evaluated at the recommended size and hazy conditions were taken into account; therefore, the contrast ratings were correctly evaluated. BLM visual resources specialists reviewed these evaluations. As full size visual simulations (approximately 20x60 inches) cannot be included in the EIS due to size constraints, the visual simulations in the EIS (including KOP 2) have been updated and scaled to appropriately compensate for the use of the wide-angled panoramic view.

The deficiencies documented by R.T. Bundorf in Exhibit 20 also are echoed when compared with the principles of proper visual effects analysis outlined in Appendix D to the National Research Council's seminal 2007 report on "The Environmental Impacts of Wind Energy Projects," enclosed on the attached CD-ROM. Appendix D describes basic standards such as line-of-sight analysis and proper viewing distance which demonstrate the inadequacy of the visual effects analysis presented in the DEIS. Appendix D also describes how use of wide angle lens photographs—as the DEIS does—"result in inaccurate perspectives," Environmental Impacts of Wind Energy Projects at 350–51, and—as the DEIS has—produce images that "minimize the visual impacts of the proposed project." *Id.* at 351. Also discussed are issues regarding how color, scale, and size and shape of nearby objects or visual clutter (present in several of the DEIS simulated photographs) can affect perceived impacts.

BLM must evaluate, independently, the National Research Council's objective scientific "best practices" guidance for visual resource impacts analysis and must produce a set of photographs for public review that accurately illustrate the impacts to the scenic quality of the Searchlight area, reflecting conditions on clear days, with sharp resolution and angle of view that more accurately approximates normal human vision.

The DEIS discussion of mitigation is wholly inadequate. Rather than include discussion of mitigation for visual impacts, the DEIS references no mitigation that actually will reduce visual impacts from the turbines' operation, instead stating the false proposition that the turbines will be painted a color that will blend with the environment. DEIS at 4-77. As a result, the DEIS contains no description of mitigation and no actual analysis of how, or whether, the proposed design and management practices could be effective to mitigation the dramatic visual and aesthetic degradation of the unique viewsheds of the Piute Valley and surrounding mountains. This is impermissible under NEPA. An agency must take a "hard look" at potential mitigating measures; a perfunctory description, or a mere listing, of mitigating measures, without supporting analytical data, violates NEPA. *Okanogan Highlands Alliance*, 236 F.3d at 473. Examples of mitigation could include ROW conditions requiring setbacks of turbines from affected scenic overlooks or areas frequented by recreationists; conditions limiting the height of turbines, or conditioning approval of ROWs on specific configurations that eliminate visual and noise impacts to areas where visitors and recreationists congregate; installation of proximity-warning devices that would limit the impact of nighttime red light blinking on the unspoiled skyscape; or conditions requiring burying the transmission line throughout its entire route.

In addition, other publicly-available simulations of potential visual impacts show far more dramatic effects on the spectacular desert viewsheds than BLM's biased simulations. For example, two simulations posted at http://www.basinandrangewatch.org/SearchlightUpdates.html, and attached as Exhibit 21, illustrate potential views of turbines on clear, cloudless days from the vantage point of a quiet recreationist in the Searchlight Mountains, depicting the turbines with the white color that the BLM simulations state will be the color of the structures to be built. DEIS at Appendix E. The supplemental DEIS must include visual simulations that *accurately* depict the likely impacts, not the set of skewed and deceptive simulations that currently are included in the environmental

The contrast ratings and visual simulations were reviewed and approved by BLM visual resources specialists in accordance with VRM BLM Manual Handbook H-8431-1.

Visual simulations were evaluated at the recommended size and hazy conditions were taken into account; therefore, the contrast ratings were correctly evaluated. BLM visual resources specialists reviewed these evaluations. As full size visual simulations (approximately 20x60 inches) cannot be included in the EIS due to size constraints, the visual simulations in the EIS have been updated and scaled to appropriately and accurately compensate for the use of the wide-angled panoramic view. The turbines in the simulations are white.

BLM had considered scenic quality when determining the VRM Class for district as disclosed in the BLM RMP (see discussion in Section 3.9.3-Visual Resources Management Classes). Section 3.9.4.8-Selection of KOPs illustrates views in and around the project area.

Comment noted.

assessment. BLM has failed to provide high-quality and accurate information about visual impacts for the public's review, in violation of NEPA.

3. BLM must prepare and disclose video simulations that depict arrays of spinning turbines and video simulations that depict turbine array operations at night.

BLM uses a "one size fits all" approach to its visual and viewshed analyses. In its analyses, The DEIS does not make a clear distinction between the various types of visual stimuli and how each category will affect the environment. Object visibility during the daytime will be affected by a multitude of factors including color, pattern, size, shape, ridgeline, and motion. For example, a stationary, irregular-shaped object with variegated pattern of earth-tone colors located below a ridgeline will be much less dominant on the landscape as a solid white vertical linear object looming above hilltops and roads with moving turbine blades. Wind turbines, by their very nature, are at the very top of visually noticeable unnatural objects. The DEIS tacitly acknowledges this in a statement buried in a table, stating that "[d]ue to the height of the WTGs and the oscillating motion of the blades, it is difficult to make the towers blend into the landscape." DEIS at 2-46. The DEIS's disclosure and analysis do not adequately explain the differences in visual impacts with the various visual stimuli involved (i.e. immobile vs. mobile objects and constant vs. blinking lights).

The spinning blades on 428 ft.-tall turbines looming above the hilltops will undeniably dominate the otherwise dramatic natural beauty of the location and would not be overlooked by the average observer. Video simulations are necessary to disclose accurately the flicker from 200-ft. diameter blades on 87 turbines in the Searchlight mountains. Because the blades rotate, sometimes at high speeds, their flicker will be more eye-catching and disruptive to the visual character of the desert landscape than stationary objects. Without simulations that disclose the movement of the turbines, the DEIS is deficient and violates NEPA.

On the enclosed CD-ROM, we have included five video clips (IMG 2931, IMG 2932, IMG 2937, IMG 2938, and IMG 2938 in the folder marked "turbine video") that show how turbines and turbine fields look in motion and the actual visual impact of moving turbines, which BLM has excluded from its DEIS analysis. For example, the video numbered "IMG 2931" shows a spinning turbine from approximately the same vantage point as the DEIS's simulation at KOP 15 (Appendix E). As this video illustrates, the simulation included in the DEIS dramatically understates the visual impact of a spinning turbine and presents the public with inaccurate information. The Appendix E worksheet describes that the structures (the turbines) being simulated will be "white" in color—as are the turbines in the video IMG 2931—but the simulation incorrectly shows static turbines that are painted grey.

BLM must prepare and distribute a supplemental DEIS disclosing simulations that show accurate information about the likely visual impacts from the motion of the turbines and their likely white color—impacts which BLM has acknowledged exist. DEIS at 2-46, 4-62, 4-77 Given readily available technology in the year 2012, there is no excuse for the BLM to not prepare and disclose to the public video simulations of the proposed project's true visual impacts.

The contrast ratings and visual simulations were reviewed and approved by BLM visual resources specialists in accordance with VRMBLM Manual Handbook H-8431-1.

The DEIS failed to evaluate adequately the impacts the turbines will have at night. DEIS at 4-77. The DEIS did not prepare simulations of blinking lights on wind turbines, wind turbine movement, and nighttime views. The lack of such concrete visual information in the DEIS thwarts the ability of the public and the decisionmakers to evaluate the true impacts of the project on the dark skies and scenic values which the Department of the Interior must protect on lands it manages, including the protected ACEC and nearby Lake Mead NRA. The failure to include information on nighttime view is particularly troubling. Nighttime views and moving simulations of the turbine strings and transmission lines, which would bear several red strobe lights, flashing at frequencies of at least 20 times per minute, are essential to understanding the dramatic change that the project would wreak on the nighttime sky in the Searchlight area. DEIS at 4-77. And no still image can simulate the experience of viewing a group of flashing lights on an otherwise dark landscape and over a lightless mountain ridge. Flashing lights are a very different experience than steady lights. A proper disclosure of visual impacts requires a realistic, moving-picture representation of the nighttime views of the proposed development, so that the public may have a better understanding of the aesthetic trade-offs that come with it.

Object (illumination) visibility during the nighttime is also affected by a variety of factors including brightness, color, pattern, and constancy. For example, a single, constant, white light that is about as bright as a planet or star from a particular distance will be much less noticeable than a line of bright flashing red lights from the same distance. Again, BLM fails to make this distinction. BLM also fails to point out that a group of flashing lights on a dark night will be noticeable from a much longer distance than the turbines during the daytime.

BLM has failed to evaluate the amount of light from FAA-required and discretionary lighting that will be present on the turbines, transmission line, tensioning towers, and associated facilities at night. One of the most important scenic resources of the Southern Nevada area is the nighttime darkness. A field of 87 wind turbines would have significant nighttime visual impacts. The DEIS inappropriately dismisses this concern by stating that "lights are not expected to contribute to sky glow or glare because of the intermittent nature and color of these lights." DEIS at 4-77. But this ignores the *actual* visual impacts from the flashing lights: they may not contribute to "glow or glare," but they interrupt the darkness. It would be easy to and disclose information showing these effects: already in Nevada and southern California there are areas where there are large arrays of wind turbines whose FAA-required lighting blink 15 or 20 times per minute. A simple video of these locations would afford the public (and agency decisionmakers) the opportunity to evaluate whether these effects are unreasonable and therefore whether the ROWs should be denied.

Aside from declaring, without analysis, "minimal" impacts to glow or glare, there is no other discussion in the DEIS of the impacts of the FAA-required lighting in the DEIS. As a result, the statement that there would be "minimal effect" on nighttime light pollution has no support. BLM and USFWS must independently confirm this false statement by visiting and documenting nearby areas, such as the Tehachapi, California region, that have been highly impacted by industrial wind energy. On overcast nights, local people who are not even in direct

BLM does not have a dark sky management policy. The BLM does recognize the importance of protecting the integrity of the Dark Sky environment and will require mitigation to dark sky impacts that fall under BLM authority. The aviation safety warning systems are under the authority of the Federal Aviation Administration (FAA). The FAA is currently assessing the suitability of utilizing Audio Visual Warning Systems that enable on-demand functionality of the WTG warning lights. The BLM is unable to require this form of night sky impact mitigation until such time that the FAA has finalized their assessment and issues new visibility marking policy guidance.

The contrast ratings and visual simulations were reviewed and approved by BLM visual resources specialists in accordance with VRM BLM Manual Handbook H-8431-1.

The BLM has included mitigation consistent with dark skies objectives as suggested by Nevada Division of State Lands and the National Park Service.

view of the actual wind turbines report that all of the red aviation lights reflect off of the clouds and create visual impacts at even great distances from the turbines.

Also, BLM should impose mandatory mitigation of nighttime light pollution by requiring installation of an Obstacle Collision Avoidance System ("OCAS") that is activated by radar and only blinks when aircraft are in close proximity, minimizing or eliminating the nighttime impacts from the Project. *See, e.g.*, Exhibit 22 (describing OCAS), available at http://www.darksky.org/mc/page.do?sitePageId=84895. Turbine maker Vestas has acquired the OCAS technology, making it readily available to a facility such as Searchlight. Exhibit 23.

BLM must obtain nighttime photographs and video of turbine arrays and extrapolate those to the 87 that may occupy the Searchlight hills. BLM also has an obligation to present truthful evidence about what it means for the strobes to be "intermittent": in the other areas where wind projects have been built, they flash every three or four seconds. Hundreds of turbines hundreds of feet tall with red or white strobes flashing certainly do contribute to light pollution. The DEIS is simply wrong to suggest that they do not.

Finding a location near any major city with dark skies is very difficult. At present, the area around Searchlight has skies dark enough to permit star gazing. Boaters on Lake Mohave are also able to enjoy the beauty of starlit skies without the intrusion of heavy industry. If the project is built the lighting on the turbines will destroy the dark skies in the area. Many Searchlight residents, as well as visitors to the area, treasure the dark night skies and the dark mountain landscapes that often accompany them. The appearance of such a stark sign of our industrial society, and of newly-industrialized land completely surrounded by protected lands, will surely be off-putting to many, and clearly convey to others that Nevada and Clark County have irretrievably lost some of their naturalness, wild beauty, and traditional character. BLM has failed to carefully evaluate this potential change in the visual and scenic character of the lands it manages in the DEIS.

4. BLM must redo its simulations to depict all reasonable visual impacts scenarios and revise its visual effects analysis to incorporate necessary revisions.

The BLM should require more KOP simulations that depict all of the visual impact scenarios. All of the most potentially visible angles of light and time of day should be considered to depict the worst case scenario.

The DEIS KOP simulations undermine the full visual impacts. They should be thrown out and re-designed, and BLM must conduct its own independent analysis of the visual impacts of the project because the simulations provided by the applicant's consultant are so misleading. BLM should disclose and evaluate the following factors in its revised visual resources analysis:

(1) Angle of Observation. The apparent size of a project is directly related to the angle between the viewer's line-of-sight and the slope upon which the project is to take place. As this angle nears 90 degrees (vertical and horizontal), the maximum area is viewable.

The BLM does recognize the importance of protecting the integrity of the Dark Sky environment and will require mitigation to dark sky impacts that fall under BLM authority. The aviation safety warning systems are under the authority of the Federal Aviation Administration (FAA). The FAA is currently assessing the suitability of utilizing Audio Visual Warning Systems that enable on-demand functionality of the WTG warning lights. The BLM is unable to require this form of night sky impact mitigation until such time that the FAA has finalized their assessment and issues new visibility marking policy guidance.

The only exterior lighting on the WTGs will be the aviation warning lighting required by the FAA. The warning lighting will be the minimum required intensity to meet the current FAA standards. Outdoor night lighting at the O&M facility will be the minimum necessary for safety and for security and will adhere to the minimization measures dicussed in under MM-VIS-5.

While the BLM does not have a Dark Sky Management policy, the BLM does recognize the importance of protecting the integrity of the Dark Sky environment, MM-VIS-5 has been updated to reflect that a lighting plan would be submitted and approved by the BLM and the basic elements that would be contained in that plan including proper dark sky protection from unnecessary light pollution scatter.

BLM has revised the scale of the visual simulations in the EIS to address this comment. However, the BLM determined the contrast ratings at the proper scale and as such the contrast ratings remained consistent with VRM Class III standards and objectives.

Visual impacts were assessed using BLM methodology. Seventeen KOPs were selected to address public concerns expressed during project scoping. Although every possible scenario is not addressed, the BLM believes that adequate KOPs were evaluated to illustrate representative views from sensitive viewpoints throughout the project area.

NewFields is an independent third party contractor for the BLM as is Truescape, the firm that supplied the visual simulations. These firms have no financial interest in the outcome of the project. The impact assessment and visual simulations were reviewed and approved by BLM visual resources specialist in accordance with VRM BLM Manual Handbook H-8431-1.

(2) Length of Time the Project Is In View. If the viewer has only a brief glimpse of the project, the contrast may not be of great concern. If, however, the project is subject to view for along period, as from an overlook, the contrast may be very significant.

(3) Relative Size or Scale. The contrast created by the project is directly related to its size and scale as compared to the surroundings in which it is place.

The immense size of the project is large and will have the potential to impact different VRM zones of different classes. Much of the public lands in the region are held to Class 1 VRM standards or the National Park Service equivalent BLM defines the objective of this class "to preserve the existing character of the landscape. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention."

Wind turbines that tower above 428 feet tall have a three-dimensional impact. It is impossible to mitigate these impacts. Protecting visual resources also means protecting unbroken landscapes from very major industrial impacts. It is pointless for BLM to try to define visual impacts based on Class 3 BLM VRM standards.

To accurately depict the likely visual effects of the project, BLM should create additional simulations from relevant viewpoints, including residential areas within Searchlight that presently have views of Spirit Mountain, and from residences northeast of Searchlight that have views of Lake Mohave. The following Key Observation Point simulations should be included in a supplemental DEIS:

1. Five KOPs from local residences that recognize and define the worst case scenario visual impacts.
2. Four KOPs from the Mojave National Preserve, California. Two from the Castle Peaks and Castle Mountains area and two from the Piute Range.
3. Four better KOP observation points from the Lake Mead National Recreation Area. Please design these so they are visible.
4. Three KOPs depicting the flashing red lights at night.
5. Four KOP observations looking down on the massive ground disturbance that will accompany the visual disturbances from vantage points in the surrounding hills and a vantage point that approximates the view from Spirit Mountain.
6. Three KOPs depicting the visual impacts from construction activity (dust clouds, enormous trucks, cranes, etc).

In addition, spurious KOPs should be eliminated from the analysis. It is very difficult to understand why the first KOP, Railroad Pass, was chosen. DEIS at 3-60. It is 36 miles and two mountain ranges from the project, so obviously no turbines would be visible. Similarly, KOP 3 and 4 (28 and 35 miles distant) are also questionable.

The BLM manages visual resources for the VRM class in which the proposed project is located, not for the VRM Class Rating of adjacent BLM administered lands, nor does the BLM have the authority to regulate land use on public lands administered by other federal land management agencies.

Comment noted.

Comment noted. The KOPs included in the EIS were selected as representative and/or included in response to public comments and concerns raised during the scoping period.

Also, the DEIS should disclose and evaluate in its revised analysis that one of the project features, the planned 100-foot high microwave tower, is also very visible and would detract from tourists' views of Lake Mohave. DEIS at 2-32.

How much "weight" is given to visual resources in making the decision whether to approve the ROWs? DEIS at 3-55. The viewshed in virtually every direction around the project will be affected. People who presently have beautiful views of Lake Mohave or Spirit Mountain will no longer be able to enjoy them. People driving east on Cottonwood Cove will drive through a heavy industrial area. Many of the visitors to the lake come from California, where their views have already been destroyed by wind turbines. Those people will likely no longer choose to recreate at Lake Mohave. People driving on US 95, just passing through the area, will be the least affected. People who live in and around Searchlight and who recreate at Cottonwood Cove will be the most affected. As noted, the turbines will be visible from three states, and from a number of wilderness areas. DEIS at 3-56.

How were the VRM categories arrived at? DEIS at 3-58. This is not explained in the DEIS. Beauty is in the eye of the beholder, and the views of Spirit Mountain and Lake Mohave are unparalleled. Likewise, expansive views of Joshua tree woodlands and forests of Teddy Bear Cholla are equally beautiful. However, if the people creating the VRM categories are from the East or West Coast, their bias toward viewsheds of deciduous trees may result in a lower rating for all desert views.

A quote from Section 3.9.4.2 on page 3-60 reads, "The landscape is panoramic, and expansive vistas of distant mountains are common." This sums up the beauty of the desert. However, a panorama intruded upon by 428 foot tall wind turbines is virtually destroyed for all who live in and travel through the region.

Park visitation at Cottonwood Cove is stated at over 300,000 annually. DEIS at 3-60. All 300,000 visitors arrive at Cottonwood Cove via Cottonwood Cove Road. An 8 to 12 month construction period would financially destroy the concessionaire at Cottonwood Cove, and much of the tourism that comes through Searchlight. Applicant should perform an economic analysis to quantify the revenue lost by the concessionaire, the National Park Service, and all Searchlight businesses that are dependent on tourism. The lost business would also result in a loss of sales tax revenue for the county and state.

Line 3 on page 4-65 should read "west" rather than "east" toward the proposed project. If you are looking east, you are looking into Arizona.

D. The DEIS does not disclose and evaluate adequately the likely impacts of the project on recreation resources.

The DEIS' analysis of potential impacts to recreational resources is inadequate. Although Section 3.11 appears to provide certain baseline data, its analysis of potential environmental impact is highly flawed and ignores the national significance of scenic vistas afforded at key observation points and recreational destinations throughout the area surrounding Searchlight,

An additional simulation for the proposed western switching station has been included in the EIS. Refer to KOP 17 in Section 4.10-Visual Resources Impacts.

Impacts to visual resources have to be in conformance with the Visual Resources Management Classification for the area, in this case the project area is designated VRM Class III, which allows for moderate levels of visual change.

Visual Resource Management classes are designated through the land use planning process and declared in the Resource Management Plans (RMPs). Designation of visual management classes is ultimately based on the management decisions made in the RMPs. RMP VRM Class decisions consider inventoried visual values along with other land use allocations and resource protections.

All actions proposed during implementation of the RMP that would result in surface disturbance must be analyzed for conformance to the VRM Class objectives and impacts to the visual values.

Five steps are involved in the visual resource management (VRM) classification process. These are: 1) outlining and numerical evaluation of scenic quality; 2) outlining of visual sensitivity levels; 3) delineating distance zones; 4) overlaying the scenic quality, sensitivity levels and distance zones using a matrix to develop visual resource inventory classes (VRI) I-IV; and 5) designate VRM Classes I-IV to provide protection to visual resource while meeting the multiple use goals of the RMP through the planning process.

Typographical area has been corrected.

including the Piute-El Dorado ACEC and Lake Mead NRA. Essentially, the DEIS sweeps potentially significant adverse effects under the rug by providing only the most cursory discussion of potential impacts to scenic resources and the unique recreational experience afforded on public lands in southern Nevada that are present in the Searchlight desert and mountains and surround the site.

The National Park Service ("NPS"), which administers the Lake Mead NRA, previously expressed significant concern about the impacts from the project in 2009. Exhibit 24. For example, the NPS described that siting the "interconnect facility or any attendant facilities in section 26 [in close proximity to the NRA entrance station] could bring significant impacts to the Cottonwood Cove entrance into Lake Mead NRA during peak traffic periods." *Id.* The NPS constructed the entrance station approximately 1.5 miles west of the NRA boundary, along Western's transmission line where the interconnection facility will be placed, and "On a busy summer weekend there are thousands of visitors using this road to access the Lake Mohave shoreline." *Id.* The DEIS does not disclose these concerns, nor indicate whether (or how) they have been addressed. However, the turbine construction along Cottonwood Cove Road and the interconnection facilities planned adjacent to the road have not varied from the initial proposal about which the NPS expressed concern. The interconnect facility is still located too close to the entrance station to a NRA. DEIS at 2-11. This facility should not be permitted that close to the road and entrance station. The DEIS also does not clearly indicate whether the land exchange described in the NPS letter in 2009 has taken place, and, if so, just how close to land administered by the Park Service the wind turbines and transmission will be. Please clarify this in the maps developed for the final EIS.

The next-to-last paragraph in the DEIS on page 3-88 presents a very accurate description of the existing use of the area, and the reason people choose to live and recreate here. Why, then, would BLM even consider granting a ROW allowing heavy industrial development in an area described as attracting "recreation visitors seeking a primitive recreation experience of natural beauty, solitude, and freedom from the regulations of structured urban environments." DEIS at 3-88. However, the DEIS's discussion of the impacts to recreation opportunities in Section 4.11 only lists general effects and does not discuss the specific ways in which the presence of an 87-turbine utility-scale wind project and associated transmission lines will deny recreationists the opportunities for beauty and solitude that BLM identified as characteristic of the area.

The DEIS's discussion of recreational impacts does not disclose that noise from the operation of the project will be easily audible (up to 25 decibels) throughout large portions of the ACEC surrounding the project site, up to the border of the Lake Mead NRA. DEIS at 4-86, 4-89. In these areas, any quiet recreation seeking the "experience of natural beauty [and] solitude" will be eliminated. The DEIS does not acknowledge that the current, relatively pristine condition of the project site and surrounding protected areas is, in itself, an important recreational resource that will be destroyed in its current form by the project. None of the KOPs are located in areas where quiet recreationists would be seeking to escape from roads into the surrounding natural areas. DEIS at 3-56. Instead, only four KOPs are presented within five miles of the project site, all along roads. *Id.* This fails to accurately present information about visual impacts to a significant class of recreationists who use the area.

Section 4.10-Noise Impacts, discusses the noise impacts of the project. Updated Figure 4.10-1. Noise Contours for the 96 WTG Layout Alternative and Figure 4.10-1. Noise Contours for the 96 WTG Layout Alternative illustrates the noise contours for areas both within and outside the project area.

The proposed action and preferred alternative would represent significant adverse impacts to the otherwise natural setting and, therefore, to the hiking experience in the Searchlight desert and mountains and in the ACEC and NRA where the project would be visible. The DEIS must evaluate what hiking areas and camping areas this would affect. In particular, BLM must evaluate how people camping at dispersed campsites would be affected by the flashing red lights on the turbines flashing every 15 seconds throughout the night. This development would forever change, for the worse, the character of the recreation experience on hundreds of acres of protected land in the vicinity of the project site. The DEIS avoids any discussion of noise and visual effects on dispersed campsites, omitting any noise receptors or visual analysis points of view outside of areas of human congregation and an established campground *35 miles from the project site*. DEIS at 3-6. Nor does the DEIS describe any potential conditions that BLM might place on the ROWs to ensure protection of recreational resources. As a result of these shortcomings, the DEIS fails to adequately describe, and propose mitigation for, what invariably would be a significant and irreversible impact to the outstanding and nationally-significant scenic and recreational resources on and surrounding the project site.

Noise receptors and visual analysis points were determined during Public Scoping when people living in the valley came forth with the properties and other locations they felt would be the most important to analyze. These included property lines, the NRA boundary, and the campground and other facilities at Cottonwood Cove. Dispersed camping areas were not identified as important locations during this process. The EIS proposes mitigation measures in Section 4.11.3-Mitigation. Refer to Section 4.10-Visual Resources for a discussion of impacts to dark skies.

Construction of an industrial-scale energy project in the area east of Searchlight also would obliterate the opportunities for use of the "Searchlight Trails" system that Clark County has been developing in the Searchlight area. The Searchlight Trails Study is enclosed on the CD-ROM (available at http://www.clarkcountynv.gov/Depts/comprehensive_planning/advanced_planning/Documents/SearchlightTrailsStudy.pdf). BLM does not mention the Study in the DEIS as a recreational resource. The Study outlined plans for a number of hiking, Off-Road Vehicle ("ORV") and horseback trails in the area northeast of Searchlight, and even linking to trails to other areas around Searchlight. The Study shows trails that, if the project is developed, would be overlain by turbines and roads to the turbines. So far only a portion of the trail system has been fully developed (a walking path just east of the community center). If the turbines are erected, there will not be hiking, ORV, or horseback trails through the turbines.

The BLM manages its lands for a variety of uses. Right-of-ways may include several uses such as transmission lines and trails. Section 4.11.2-Direct and Indirect Effects by Alternative under Recreation has been updated to reflect the findings of the Searchlight Trails Study.

The Study provides an excellent description and photos of Cottonwood Cove Road within the town of Searchlight. They correctly depict the road as very narrow, and as the Study indicates, would be difficult to widen because some of the fences and improvements around residences were built on the easement. This is quite common in old Nevada mining towns.

The discussion of impacts in the DEIS presents impacts as speculative when they are certain. DEIS at 4-92. All four items listed will occur if the project is built. Conflict already exists between the master plan for Searchlight Trails, and the planned WTGs. Also, noise levels will be in conflict with NPS levels for noise at night. Access to existing recreation will be altered by the presence of wind turbines along Cottonwood Cove Road, and ORV riding areas will be impacted by the presence of turbines in previously accessible areas. The levels of use at Cottonwood Cove will change. Many people will no longer find it desirable to travel to a site with the higher noise levels that will result from the turbines. There is also potential for overcrowding when a good share of the 300,000 Cottonwood Cove visitors go to Lake Mead, or to Katherine's Landing.

BLM right-of-ways are managed for multiple uses. Section 4.10.2.2-Proposed Action – 96 WTG Layout Alternative, indicates that sound levels for the NPS would be under 35 decibels which is in conformance with the NPS requested level. No wind turbines are directly adjacent to Cottonwood Cove Road. Five WTGs would be visible from the road. Access roads would be improved, providing access for OHV riding. Section 4.11.2-Direct and Indirect Effects by Alternative under Recreation has been updated to reflect the findings of the Searchlight Trails Study.

The DEIS states that there would be no change to the status of the ERMA or existing ROS classification, which includes "recreation in a natural setting, generally away from other human activities." DEIS at 4-93. How anyone could state that 87 428-foot tall wind turbines will have no effect on recreational opportunities or classification status is puzzling. What would it take to constitute a change?

The third paragraph on page 4-93 does not comply with BLM's obligation under NEPA that an EIS "shall be written in plain language … so that decisionmakers and the public can readily understand them." 40 C.F.R. § 1502.8. Could this paragraph be translated into plain English? When 12 months of construction, 37 miles of new road, and 87 428-foot tall turbines in a natural area is considered fine for recreation areas on public lands, there needs to be some interpretation done to convert this into "plain language." Also, the altered environment and noise from turbines will eliminate the area for hunters. The change in the viewshed and noise level will not be palatable for hikers looking for a natural experience.

What does it mean when the DEIS states that "Construction activities would have minimal but permanent impacts on the trail"? DEIS at 4-94. Does this mean the trail will be obliterated? Is there an alternate route that could avoid this historic trail? The history of Nevada is not expendable. The same page mentions that "Access to the project area during O&M would not be restricted and 29 miles of new and improved road would allow for greater access to the area." If the applicant requires an 886-foot safety set-back from turbines, how can the roads be used for recreation?

It is an understatement to say the project "could" have long-term impacts on the recreation setting and experience. DEIS at 4-94. Basically, the project will change the project area from pristine desert to a heavy industrial zone. The document states the project would "degrade the quality of the recreation setting." This area is an important area for bighorn sheep, and the document states the project could have a negative effect on big game and upland game and wildlife habitat. Given the admitted degradation of the natural area, and negative effect on every aspect of the area, why would BLM consider any alternative other than the "No action" alternative?

The DEIS states that the project ". . . would not substantially impact the area's potential for recreation opportunities . . ." DEIS at 4-95. This statement is not believable. Even though the so-called "footprint" (where turbines, transmission towers, and access roads touch the ground) is small, the fact that the turbines and infrastructure are dispersed over thirty square miles—with noise and visual impacts that extend far beyond the "footprint" and indeed beyond the project site itself—belies that statement. How can a 30-square mile project be deemed having "moderate residual impacts on the recreation setting and experience resulting from the long-term presence of WTG's transmission lines, and access roads." How can the presence of 430 foot tall turbines, generating loud noises, and destroying the viewshed, be considered "moderate"? If this is considered "moderate," what does BLM consider "extreme"?

Section 4.11.2-Direct and Indirect Effects by Alternative discloses the proposed project effects on recreation. Construction of the proposed project would not close the area to hunters. Refer to Section 4.10-Noise Impacts for a discussion of noise effects.

Section 4.11.2-Direct and Indirect Effects by Alternative has been updated to reflect that the precise location of the Old Spanish Trail within the project area is unknown and no physical evidence of the trail exists on the ground. Therefore, no impacts to the trail would occur. The 886-foot safely set back is a standard design safety precaution to protect established structures and major thoroughfares. Access roads would be available for public use, although they could not approach too closely to the WTGs.

Comment noted.

The project only would permanently disturb 152 acres. The natural habitat surrounding the WTGs will be maintained to the extent possible and laydown and other construction areas will be returned as closely as possible to the pre-project condition.

E. The DEIS does not disclose and evaluate adequately the likely impacts to vegetation, special status plants, and noxious weeds.

The DEIS is also deficient because it provides inadequate and misleading information about rare plants. The botanical surveys for sensitive species plants were performed during a six-week period between March and May 2010. DEIS at 3-23. The botanical survey freely acknowledges that the "survey report can only represent the site as it was observed during the survey period(s)." 2010 Searchlight Botanical Survey at 6. However, this disclaimer is not mentioned in the DEIS itself. These springtime surveys detected no sensitive plant species. However, this is insufficient information from which to conclude that no rare plant species occur in the area that the project will affect. Varying and sporadic rainfall in this arid place means that certain species do not bloom during the few days of surveys, and some species only flower after summer rains. The DEIS is inadequate because it lacks late summer/early fall-flowering plant surveys on the proposed project site.

Approximately 40% of the plant taxa in the area of the project flower in late summer/early fall due to the location and bimodal precipitation regime. The spring surveys conducted would fail to detect and document most of these summer/early fall-flowering rare plants on site. Because of the vagaries of precipitation in the Mojave Desert, surveys should be performed over a number of years during both the spring and summer/fall flowering seasons in order to maximize the probability of identifying all special status species that occur on the project site. Projects of this size and potential impact should include more than two years of surveys. Without an accurate inventory of plant taxa that occur on site, it is not possible to fully assess project impacts to special status plants and therefore meaningful mitigation cannot be developed.

Alphabiota Environmental Consulting conducted the botanical survey for this project according to BLM guidelines.

At least one of the figures provides incorrect identification of the species photographed. Figure 10 does not show Sahara Mustard and Phacelia, but rather Sisymbrium irio (another invasive mustard) and Erodium cicutarium (a major invasive). Given that Penstemon bicolor is known to occur just west and north of this site, it is likely to occur on the site but was not observable due to dry conditions or limited surveys. The surveys—featuring few botanists, meandering surveys, and pseudo-systematic sampling, and omitting fall sampling—likely undercounted species on the site. In light of the relative lack of botanical inventories of the southern Nevada region and the location near California and Arizona, influenced by the Colorado River and with expected affinities from the Sonoran Desert to the south, it is surprising that no new taxa for Nevada were identified. A new record in Nevada for plants from neighboring states would automatically fall on Nevada's watch list and be a species of concern.

Comment noted. No change is required in the EIS.

The DEIS must disclose the amount and cycle of rainfall at the project site, which most years will be less than six inches, and also disclose the relationship between the amount of rainfall and the times of the surveys. BLM should conduct surveys during the fall as well as spring to identify the potential presence of sensitive plant species, and develop and disclose mitigation for the effects of construction and operation of the project on such plants. The DEIS states that no rare plant mitigation will be required because no rare plants were found on the surveys. Had rare plant surveys been conducted at the proper times, more rare plants may have turned up in the surveys.

The Eastern Mojave Desert is a botanical frontier where in the past few years alone, a number of very significant botanical finds have occurred and more are to be expected. For example, at least five species previously undocumented within the California Desert Conservation Area boundaries have been documented in the last few years near the project site in Nevada. Additionally, these species that are found on the "edges" of their range are incredibly important for species persistence[13] especially in light of global climate change.[14]

Because of the lack of comprehensive surveys, the DEIS failed to adequately analyze the impacts that the proposed project would have on rare and special status plant species including direct, indirect and cumulative impacts to these plants and failed to adequately identify and evaluate potential alternatives that would avoid or minimize the impacts of the project on these species. In order to comply with NEPA, the BLM should revise or supplement the DEIS with this critical information and circulate it for public review and comment.

The DEIS includes only the most general description of the tremendous problem of invasive weeds. DEIS at 3-22, 4-25 to 4-26. For example, there is only an acknowledgement that the project's construction and operation has the "potential for the introduction or proliferation of noxious weeds into the project area." *E.g.* DEIS at 4-26. But there is no detail provided about what weeds or to what extent the project will be a cause of exacerbating the problem of weeds in the project area and surrounding lands. Weeds are one of the greatest threats to the natural environment, yet almost no data or analysis of weeds appears in the DEIS. Please evaluate the Declaration of ecologist Dr. Jonathan Gelbard, on the enclosed CD-ROM (including attachments),[15] who describes that the spread of weeds is "recognized, virtually by scientific consensus, as one of the greatest threats to desert ecosystems." Gelbard Decl. ¶ 5. The impacts of weeds on these ecosystems range from reductions in biodiversity and wildlife habitat, to changes in ecosystem processes such as fire frequency and hydrology, to increases in erosion and soil loss. *Id.* at ¶ 8–10. Roads serve as "major conduits" for the spread of invasive species because they are the "entry points for virtually all human impacts to terrestrial ecosystems." *Id.* ¶¶ 11–12. The integral link between the presence of roads and the spread of weeds is well-accepted in the scientific literature. *Id.* ¶ 13 (and Table 1).

The DEIS does not evaluate the extent to which the roads created for construction and later maintenance of the project will lead to invasion of weeds into currently weed-free or low-weed areas, or cause the adjacent ACEC and other nearby lands to be more seriously impacted by invasive weeds. BLM must explain what the baseline conditions for weeds are in the area where

[13] Leppig, G. and J.W. White. 2006. Conservation of peripheral plant populations in California. Madrono 53(3):64-274.

[14] Kelly, A. E. and M.L. Goulden 2008. Rapid shifts in plant distribution with recent climate change. *Proc Natl Acad Sci USA* 105:11823–11826.

[15] This Declaration was filed in federal court in *Oregon Natural Desert Association v. McDaniel*, No. 09-369-PK, on July 23, 2010, a case in which BLM is a defendant.

Alphabiota Environmental Consulting conducted the botanical survey for this project according to BLM guidelines.

Impacts as a result of invasive weed species are discussed in Section 4.4.1.2 Direct and Indirect Effects by Alternative and Appendix B-1: Weed Management Plan.

These effects are described as a potential impact of the proposed project, which includes roads in Section 4.4- Biological Resources Impacts and Appendix B-1: Weed Management Plan.

the generation turbines, access roads, and transmission lines will be located. Without the baseline information about existing weed conditions, BLM cannot make a non-arbitrary decision about the effects of weeds from the project's construction and operation. The DEIS's discussion of mitigation, indicating there will be a weed management plan in place—which, of course, has not yet been developed, and therefore we cannot comment on—is inadequate because it does not analyze whether or not that plan will actually be effective in controlling weeds.

Finally, Table 2-7, MM-BIO-2 (DEIS at 2-47) says that yuccas and cacti salvaged from the project may be tagged for commercial purposes. All Joshua trees, Mojave Yuccas, and cacti should be kept on site, and *not* mulched, and not sold, and a special nursery area should be set up so that the plants can be transplanted on site or in the surrounding ACEC. The yuccas and cacti should be watered to keep them alive and used to revegetate the project site after decommissioning.

Refer to Section 4.4.1-Vegetation and Table 2.6-2. Mitigation Measures. Specifically MM-BIO-2 has been updated to include current BLM Cactus and Yucca Salvage Plan standards.

F. The DEIS does not disclose and evaluate adequately the likely impacts to wilderness values, wilderness areas, and other protected areas.

The DEIS does not discuss whether visual impacts from the construction and operations of the turbines (and noise impacts for the turbines closest to the Wilderness borders) violate BLM's non-impairment mandates under the Wilderness Act and FLPMA. Sound levels even up to a half a mile (approximately 600 meters) from wind turbines can be up to 50 to 70 dBA—approximately the loudness of a vacuum machine. Exhibit 25. Please quantify and evaluate the likely loudness of turbines areas with wilderness character, including the surrounding ACEC, to allow an accurate determination of whether conditions should be imposed on the ROWs requiring turbine setbacks from these areas to protect their character as wilderness and areas with opportunities for solitude and quiet recreation. Granting a ROW that allows construction of turbines that mar the viewshed and soundscape within areas containing wilderness values violates both the Wilderness Act and FLPMA. The proximity of a large, heavy–industrial project adjacent to ACECs, Special Management Areas, wilderness areas, and the Lake Mead NRA is not acceptable and not justified by the DEIS's paucity of disclosure of effects on these areas.

Section 603(c) of the FLPMA states, "...the Secretary [of the Interior/BLM] shall continue to manage such lands according to his authority under the Act and other applicable law in a manner so as not to impair the suitability of such areas for preservation as wilderness ...". The effects of noise and visual effects were not determined to affect any of the nearest six Wilderness areas, located 5-12 miles from the proposed action, therefore the project would be in compliance with this FLPMA-mandated non-impairment standard

The DEIS notes (at 3-40) that there are six designated Wilderness Areas near the proposed project site. If BLM deemed these nearby areas worthy of preserving, as well as the ACEC that surrounds the site, why would the agency be considering destroying this area immediately adjacent to Searchlight? The turbines will be visible from several of the six wilderness areas, as well from as the Mojave Desert Preserve in California. How can these still areas still be considered wilderness if they are in proximity to heavy industrial development? Has BLM evaluated the visual impacts from this project in those areas, and what the noise impacts are? The DEIS contains no information about this. BLM should evaluate how the appearance during the daytime and at night of a large array of tall, spinning turbines will affect the visual resources and opportunities for solitude and primitive recreation in nearby areas that are designated as Wilderness or contain wilderness values.

Additionally, studies have shown that under certain atmospheric conditions, noise from wind turbines can be heard for 15 kilometers (approximately nine miles). This range would

include the Sprit Mountain Wilderness Area. Please explain why these effects are not evaluated in the DEIS and please disclose and analyze these effects.

G. The DEIS does not disclose and evaluate adequately the likely impacts to social and economic values.

The socioeconomic impacts of wind turbines and transmission lines in potential renewable energy development go far beyond the value of the electricity produced by such projects or the construction, operation and maintenance jobs which may be created. While certainly beneficial in advancing our national quest for renewable energy and our important goal of reducing global warming pollutants, industrial-scale generation and long-distance transmission of renewable energy (as is the case with all industrial developments) will leave permanent impacts on the landscape which is an important economic driver in this region. The public lands that may be impacted by this proposed transmission project are important and valuable to all Americans. Development of these lands for energy transmission should be considered carefully and should account for all their potential values – both market and non-market.

Notably, the DEIS does not account for the costs associated with the project (including reduced or degraded recreation visitation and effects on property values from loss of open space), nor does the DEIS address the economic benefits associated with undeveloped public lands, does not assess an alternative which avoids undeveloped public lands in favor of private lands, does not explore the benefits of siting this project on previously developed, contaminated or degraded lands (brownfields), the DEIS fails to consider the non-market values affected by the project. The DEIS examines only potential jobs and income using IMPLAN (DEIS at 4-97) and does not assess the impacts of the proposed project on other sectors of the economy. Accordingly, the DEIS's conclusion that "the two action alternatives would result in favorable short-term and long-term effects for the local and regional economies," DEIS at 4-126, is unsupported by the evidence and analysis provided and is an arbitrary and capricious conclusion.

IMPLAN is the accepted standard for NEPA analysis.

1. The DEIS fails to estimate net economic benefits.

The DEIS describes several purported socioeconomic benefits from the project, and then goes on to state that "[n]o adverse impacts to socioeconomic conditions are anticipated." DEIS at 4-110. However, NEPA requires a disclosure of *all* socioeconomic impacts—not only beneficial ones, and therefore the DEIS must include the costs associated with any activity. The *net* benefit of a project is not comprised solely of income and employment. It is absolutely impossible to estimate the *net benefits* of a project without including *all* costs, and to make such an assertion calls into question the credibility of the entire economic analysis. The DEIS does not allow a meaningful evaluation of the net benefits of the proposed project because it does not include any socioeconomic costs.

Assessment and identification of impacts based on data, analysis, and documented impacts from past projects. This comment indicates confusion between very different economic concepts of <u>impacts</u> versus <u>benefits</u>. Comment contains speculation and cannot be documented.

To address this error, BLM must reevaluate the proposed alternatives using transparent methodology which includes all the costs associated with the development. Any negative impact will inflict costs on at least some stakeholders. The DEIS ignores the long-term impacts that this

project would have on real estate, property values and Searchlight's potential to grow as a tourism and retirement community. The DEIS needs to examine the boom and bust effect that this project will have. Just about all the construction jobs will go to workers from outside the local community. No local residents would get jobs. People will not visit Cottonwood Cove in the Lake Mead NRA as often, if at all. This industrial-scale energy project will only create five to ten full-time jobs. There is no information provided on the negative impacts the project will have on the local economy. The impacts to the existing economy must be disclosed, and analyzed, in the discussion of both socioeconomic impacts and environmental justice impacts.

Section 4.12-Socioeconomic Impacts discloses impacts to socioeconomic conditions and has been updated to include potential effects on recreation and tourism. No negative impacts are anticipated. For further information see the newly added ppendi x F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

In developing the socioeconomic analysis for development such as an industrial-scale energy generation and transmission project on or impacting public lands, BLM should favor those projects which provide the greatest *net* benefits to the American public. The analyses conducted in the DEIS for the Searchlight Wind Project are inadequate to assess net benefits because it does not account for the costs of the project. This is unacceptable.

Refer to Section 1.3.1-BLM's Purpose and Need for the Proposed Project and 1.3.3-Western's Purpose and Need. Maximizing net social benefit is not a requirement of NEPA.

Renewable energy development, like any industrial development sited on public lands, will have negative impacts on the lands on which the project is built and on surrounding public lands into which the effects of the project extend, and these impacts may be as great as those associated with other energy development. We do recognize that the production and use of renewable energy, if it replaces that of fossil fuel energy, will also have benefits. These include the lessening of greenhouse gas emissions from electricity production which, in turn, will be beneficial to undeveloped public lands by reducing the already measureable impacts of climate change.

At the same time, in light of climate change, undeveloped public lands are also increasingly important as a source of habitat for species impacted by climate change, as a source of forest and other vegetation which acts as a "carbon sink" and is thus important for mitigation of climate change. Undeveloped lands are also a source of increasingly scarce clean water and other ecosystem services. Any energy transmission projects (even those targeting renewable energy) sited on undeveloped lands (both public and private) will reduce these benefits. These costs should be included in a revised economic assessment of the project in order to do a complete analysis of net public benefits.

Please specifically describe and quantify the costs of the carbon dioxide offset that will be lost by the removal of cryptobiotic soil crusts and vegetation that would result from construction of the project.

NEPA does not include a provision for monetary evaluation of these resources.

BLM must make a quantitative assessment of all the costs associated with the proposed project. Because BLM must circulate a supplemental DEIS to address other deficiencies in the DEIS, this assessment should be included in the supplemental DEIS.

These costs include:

- Costs associated with impacts to wildlife, including desert tortoise, bighorn sheep, golden eagles, other raptors and other migratory birds, bats, and other wildlife;

- Costs associated with scenic and visual impacts;
- Costs associated with noise impacts;
- Costs associated with impacts to water;
- Costs associated with impacts to recreation, including the costs associated with potential damage from enhanced ORV access *if* access would truly be available along project roads, and the damage such access may cause to non-motorized recreation;
- Costs associated with invasive weeds and other impacts to vegetation, including the negative impacts of herbicide use;
- Costs associated with damage to cryptobiotic soil crusts and
- Costs associated with impacts to cultural resources.

Finally these costs should be assessed in a cumulative fashion, as they are often interrelated. BLM must assess the economic costs associated with these impacts and include the costs in a true analysis of net economic benefits.

2. The DEIS fails to consider the effects of the project on the town of Searchlight including effects on tourism and low-income and elderly populations.

The DEIS is replete with inaccurate or misleading data regarding socioeconomic effects. BLM must present accurate baseline information for its NEPA analysis to be valid. Please correct the following deficiencies in the Final EIS and in any supplemental DEIS.

The number of truck trips (9,025) for the Preferred Alternative will have a profound effect on tourism on Cottonwood Cove Road. DEIS at 2-33. Assuming even one-half of the truck trips are on that stretch of narrow (24-foot wide) paved road, this will have a direct conflict with tourists and particularly recreationalists towing their boats down this already dangerous stretch of road. According to the National Park Service, Cottonwood Cove has 300,000 visitors annually. The conflict between tourist traffic and construction traffic has the potential to be very deadly, and also to discourage visitors from visiting the Lake Mead NRA and the Searchlight area generally. How many people are likely to be killed from such encounters? There are traffic statistics and probability analyses readily available, and these are used elsewhere in the DEIS. Why has BLM not done more than refer to generalized potential for effects on tourism? BLM should analyze, and quantify, the likely impacts of construction and operation of the project on the presence and safety of tourists who would use Cottonwood Cove Road and the surrounding area.

Refer to impacts and mitigation measures discussed in Section 4.7-Transportation Impacts.

Section 4.12 – Socioeconomic Impacts has been updated to include a discussion on impacts to recreation and tourism.

Rather than using Mohave County, Arizona data, why wasn't data from portions of San Bernardino County, CA, used? DEIS at 3-92. The Colorado River presents an enormous physical and geographic divide between Nevada and Arizona. No roads cross the river between Hoover Dam and Laughlin, Nevada, a distance of more than sixty miles. Influence on and access to the project is more likely to occur from California than from Arizona.

Comment noted.

Are these comparisons (in the DEIS) used because the same studies were done for the proposed White Hills Wind Farm in Mohave County, Arizona?

The DEIS states the "physical energy infrastructure serving Clark County and would potentially provide electrical power to the region." DEIS at 3-92. As of January, 2012, applicant did not have a power purchase agreement (PPA). The state of California is providing its own renewable energy. Arizona is on track to meet its RPS. If applicant does secure a power purchase agreement with a utility in another state, I fail to see how that will benefit the residents of Southern Nevada. Any tax benefits to the county and state would be offset by loss of wildlife habitat, loss of recreation opportunities, and the loss of rural lifestyle, no matter where the expensive wind power is sold.

The DEIS should be updated to reflect 2010 Census data rather than the obsolete 2000 Census data. DEIS at 3-92.

Section 3.10-Socioeconomics has been updated to 2010 Census and 2016 projections.

This DEIS provides an accurate description of the area. DEIS at 3-94. Particularly important is the recognition of Searchlight as ". . . the gateway to popular Lake Mohave in the Lake Mead NRA." This further enforces the obvious conclusion that this area is not an acceptable site for an industrial scale wind energy generation facility. BLM should not grant the ROWs for this project.

Comment noted.

For the discussion at DEIS page 3-94, once more, why is 2010 Census data not incorporated? If the projections for 2013 are based on data from 1990 through 2008, they are way off the mark. Population peaked in Clark County in approximately 2007-2008, and has since declined. DEIS should be revised to reflect actual Census data for 2010, and projections recalculated through 2015. BLM has ready access to this information and should disclose current information, particularly when making a decision for a project that would be a permanent fixture of the local environment for at least 30 to 50 years.

Once more, DEIS presents four-year old data. DEIS at 3-97. Re-do tables with 2010 Census statistics.

Use of data for housing prices from 2008 is totally erroneous. DEIS at 3-98. Furthermore, 2008 was a volatile year for the housing market, and the DEIS provides inadequate baseline information by failing to identify what month the price data relates to (or whether, instead, it is the median price for the year). This data is stale. Data on real estate pricing is readily available from many sources. For example, the median asking price for an existing home in Las Vegas in April 2012 is $120,000. Exhibit 26. This is far closer to reality than the 2008 median value of $284,094 listed for Nevada. In fact, Exhibit 26 shows that housing prices dropped nearly 50% from a median of $238,858 in June 2008 to $120,000 in February 2011 (one year before the DEIS was published), and have stayed almost the same since February 2011. Land prices in the Las Vegas area in mid-2011 had declined 83% from their peak at the end of 2007. Exhibit 27. The installation of an industrial-scale energy project would further depress an already-depressed housing market in the area, or at a minimum prohibit any recovery from the current lows. There is no explanation for why data that is more than three years old appears in the DEIS, and BLM must update this with current data accurately depicting the dire current conditions of the local housing market.

Why is no mention made of the tourists (non-gaming) who recreate at Lake Mohave? DEIS at 3-100. This includes boaters, fishermen, campers, hikers and also the eco-tourists who come to enjoy the quiet of the Joshua tree woodlands? These tourists eat in the restaurants, buy gas, and buy food at the convenience stores. This source of economic input will largely be lost forever if the turbine project is built. Searchlight is more than just casinos and a way to travel between Nevada, Arizona, and California.

Section 4.12 – Socioeconomic Impacts has been updated to include a discussion on impacts to recreation and tourism.

Again, data should be specific to Searchlight, and be at least as current as the 2010 Census. DEIS at 3-101. A quick drive around the region will verify that actual Searchlight income is more like that of Bullhead City, Arizona. Many residents are totally dependent on Social Security for their income. The report does note that the SIA has more people with incomes below $50,000 than the two-county region. Very possibly the incomes in 2012 are even lower than those reported for 2008, due to the decline of the economy in the entire nation, and particularly in the Southwest.

Section 3-12-Socioeconomic Impacts has been updated to 2010 Census.

The graph on page 3-102 only extends to 2000. The report states that "Overall during this period (1970 to 2000) the relative level of prosperity in the region was improving." That may have been true then, but between 2007 and 2012 the economic bubble burst, and the economics of the region today is far different. Many local economists feel the bottom still has not been reached. Nevada has the highest unemployment in the nation. In December 2010, unemployment in the Las Vegas-Paradise metropolitan statistical area had risen to 14.9%, a new all-time high for the region. Exhibit 28. Until tourism rebounds this will not change. The DEIS presents a false picture of the baseline economic conditions and does not comply with NEPA's obligation to present high quality information, and BLM demonstrates no reason why it could not have used current data.

SIC codes end in 2000, causing end to that data series. Data updated to 2010 Census and current conditions wherever possible.

The DEIS notes that nearly 30% of all jobs in the Searchlight Project Impact Area ("SIA")[16] are in the tourism sector, compared to less than 8% in the United States as a whole. DEIS at 3-102. In Searchlight proper, a whopping 56% of jobs depend on tourism services. If this project were built, it would create a few short-term jobs for out-of-town specialists, but in the long term would destroy the tourism in the immediate area. Therefore, the ROW should not be granted.

Comment noted.

The temporary increase in construction workers is guaranteed to result in increased crime and auto accidents. DEIS at 4-96. Clark County and Searchlight infrastructure, including police, firemen and paramedics, are not prepared to handle these issues in a remote area. BLM must define "Result in a tax burden to local residents not offset by the Proposed Action's generation of new public revenue." Searchlight is not incorporated, and taxes are set by the state and county.

Refer to Section 4.12-Socioeconomic Impacts under the Fiscal Impacts.

[16] Defined on page 3-92 as an area of about 2,052 miles of land encompassing 18 census tracts that will most likely be affected by the project.

Using the methodology for calculating "benefits" from the project, we gather the following: Clark County may benefit, but the people of Searchlight will suffer. Searchlight's economy for years has been dependent on tourism. This project will effectively destroy tourism at Cottonwood Cove for one to two years. The increased revenues from feeding and housing the construction workers during that period is unlikely to replace the tourism dollars. The increased spending resulting from the project will occur in Las Vegas, Laughlin, Bullhead City, and even more distant sources of supply. Land Lease payments made to BLM go to the U.S. Treasury; sales tax goes to the state; property taxes go to the county and state. Searchlight will be left worse off economically and "social benefit-wise" than before the project.

Speculative. This comment indicates confusion between very different economic concepts of impacts versus benefits.

The one group that will directly benefit from the project is the shareholders of Duke Energy. CEO James Rogers has been quoted as saying, when asked why Duke invested in wind projects, that wind projects guarantee Duke Energy from 17 to 22 percent return on equity. This is particularly obscene, when one considers the damage to the people of Searchlight and the desert environment surrounding the town. The National Legal and Policy Center has documented Duke's investments and government aid it receives for renewable energy projects. Paul Chesser, Taxpayers Get Hosed on Duke's Energy Wind Farm Buying Spree, National Legal and Policy Center, Aug. 4, 2011, *available at* http://nlpc.org/stories/2011/08/03/duke-energys-lucrative-wind-farm-buying-spree and attached as Exhibit 29.

Comment noted.

Also, the location of the project surrounding the town on three sides will prevent future growth for Searchlight. The project is a "lose-lose" for the Searchlight and its residents.

Comment noted.

The DEIS states a 2008 economic model for Clark and Mohave counties was used. DEIS at 4-97. That was four years ago. What would a current economic model show? Also, the royalty lease payments to BLM will go to the U.S. Treasury, Washington, D.C., so that is not a benefit to Searchlight or to Nevada. *Id.*

The economic linkages contained in IMPLAN models are quite stable, i.e. the set of inputs required producing a good or service changes little over a four-year period. Prices are adjusted to 2011 dollars. Royalty lease payments are not included in direct impacts. Note total operations annual budget of $8.15 million and total local expenditures (or direct impacts) of $2.95 million in EIS Table 4.12-3. Summary of Project Annual Operations Expenditures for 96 WTG Layout Alternative.

The property tax and sales tax abatements provided by the state and county for renewable energy projects are not an argument in favor of the project. *Id.* A business not eligible for these lucrative tax abatements would result in more tax resources for the state and county. Renewable energy should be considered a tax drain, not a cash cow.

The EIS is merely disclosing the information on tax abatements, not defending it.

The statement "The land would retain its rural desert qualities, and the habitats supporting ecosystems and species would not be altered from project-related encroachments," is true, under the "No Action" alternative. DEIS 4-98. In addition, the people of Searchlight and the surrounding area could continue to enjoy their rural lifestyle; tourists could continue to find enjoyment in the natural environment surrounding Lake Mohave, Native Americans could continue to visit and worship at sacred Spirit Mountain without the beauty of the nearby desert having been destroyed; Searchlight residents could continue to enjoy the beautiful views of Spirit Mountain and Lake Mohave, and enjoy stargazing under the dark, quiet night skies. Eagles, bats, tortoises, desert bighorn and other wildlife could continue to survive in their natural habitat.

Comment noted.

The balance of the paragraph regarding the "No Action" alternative has statements that are unbelievable and supported by nothing but wishful thinking ". . . final end-use retail

This sentence has been removed from the EIS.

consumers would not experience any positive sense of social well-being because this alternative would not involve construction and operation of the wind energy facility and delivery of emission-free power." BLM must provide quantitative data that explains how the end-user will know which electrons are being used and how and where they were generated when he turns on his light switch? This would be an enlightening study.

It is further stated: "The socioeconomic well-being of project construction and O&M workers and suppliers to the renewable energy industry would not be favorably affected under this alternative since the Proposed Project would not be built and operated." Again, please quantify the socioeconomic impact of something that never happened—or provide the consumer surveys regarding the Searchlight Wind Project that were collected and used to make this statement.

Comment noted.

What would no doubt be measurable would be the improved attitude of the local people whose lives and environment are not damaged by this proposed project. Thus, the No Action alternative would have very positive socioeconomic impacts in the immediate areas of Searchlight, Cal-Nev-Ari and Cottonwood Cove. There would also be no need to count dead eagles and other dead birds, dead bats, and dead tortoises under the No Action alternatives.

The existing setting describes the current conditions. The impact analysis presented in Section 4.12-Socioeconomic Impacts, compares the build alternatives with a no build option; the No Action.

Why is so much emphasis placed on the "social well-being" of transient construction workers, and so little emphasis placed on the "social well-being" of the long-time residents of the area who love their rural life style? DEIS at 4-100. The construction workers would have 8–12 months of "social well-being," while the permanent residents would be sentenced to looking at and listening to 428-foot tall turbines for the rest of their lives.

Social well-being is addressed in Section 4.12.2.2-Proposed Action -— 96 WTG Layout Alternative under Local Private Land Owners/Residents/Large Lot Owners.

Has an agreement been struck with Duke Energy to confirm their agreement with the figures presented? DEIS at 4-110.Duke Energy has a history of challenging their tax bills. The states of Wyoming and Ohio have had difficulties collecting property taxes from Duke Energy. Dustin Bleizeffer, Duke Energy Disputes Taxes, Casper Star-Tribune (Sept. 5, 2010), *available at* http://billingsgazette.com/news/state-and-regional/wyoming/article_584efb76-b88e-11df-b372-001cc4c03286.html and attached as Exhibit 30. Please also refer to the video news report regarding the dispute in Ohio: http://www.clipsyndicate.com/video/play/1571412/duke_energy_reaches_temporary_agreement_on_tax_dispute

Comment noted.

Finally, the DEIS incorrectly asserts that there are no environmental justice issues involved in the development of this project. DEIS at xvii. However, given the high number of low income senior citizens who cannot afford to move, why is this group not considered a "minority population" whose status should be considered?

Only minority, tribal, and low-income populations are examined in environmental justice. Seniors cannot be documented as a group to be low-income. The EIS has been updated to utilize 2010 Census data.

Figures regarding low-income populations were calculated using 2000 Census Data. DEIS at 3-106. This data is entirely too dated to use for Nevada demographics. There has been a great deal of change in the economy and population of Searchlight since 2000. A letter approved at a recent meeting of the Searchlight Town Advisory Board ("STAB"), supporting funding of the "Silver Rider" public transportation system, noted that "[p]ublic transportation is vital to the

Table 3.13-1. Estimated 2010 Families with Incomes Below National Poverty Level has been updated to 2010 Census data. (Zero persons in Searchlight CDP were documented living under poverty in 2010.)

community of Searchlight, particularly in these difficult economic times. Searchlight has a high population of senior citizens, as well as low-income residents, who are public transit dependent." January 11, 2012 STAB Minutes at 3 (on enclosed CD-ROM). These facts are not reflected in the DEIS. BLM needs to redo calculations using 2010 Census data. The table on page 3-106 showing the estimated 2008 number of families with incomes below the national poverty level should be revised using, at a minimum, 2010 Census data. Searchlight and the State of Nevada have suffered significantly during the recession that began in 2008, so even the 2008 estimates are no longer representative of conditions in 2012. More current data may reflect an entirely different socioeconomic status. The many elderly, low income people could not afford to move away from an operating industrial wind energy project at Searchlight, even if it was impacting their health and well-being.

The DEIS notes that Cottonwood Cove Road passes by some of the newer homes in Searchlight. DEIS at 4-122. Please note that very few of these homes were ever sold. The developer went bankrupt, and the empty homes are now bank-owned, and priced at approximately one-third of the original asking price. The possibility of the homes being in the proximity of an industrial wind energy project has contributed to the low asking prices. Realtors are obligated to inform potential buyers of the plan for an industrial wind project nearby. The DEIS states that "no negative impacts on property values from construction and O&M of the 87 WTG Layout Alternative could be documented." DEIS at 4-112. This statement is incorrect. Studies in other states and in Canada have proven that values of private property land within sight of wind turbines are immediately devalued by at least 30 and up to 40 percent. *See* Exhibits 31 and 32.

Section 4.12-Socioeconomic Impacts has been updated to include potential effects on recreation and tourism. For further information see the newly added ppendi x F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

Finally, the DEIS fails completely to disclose and discuss the impact of the project on the local community as evidenced by essentially unanimous local opposition to the project. The extent of this opposition, and the deleterious effect the project would have on the local community, are important factors that the decision maker should consider before approving this project. As one commenter put it, "[w]hile it was once rare that local citizens would organize opposition to utility-scale wind projects this early in the permitting cycle, it is now increasingly the norm throughout the country." Roopali Phadke, Resisting and Reconciling Big Wind: Middle Landscape Politics in the American West, at 755 (on enclosed CD-ROM). The Phadke article provides a thoughtful description of the impacts of industrial-scale energy projects on local communities that must be disclosed and evaluated before BLM issues ROWs for this project, with a particular focus on the impacts of the Searchlight project. *See also* Susan Lorde Martin, *Wind Farms and Nimbys: Generating Conflict, Reducing Litigation*, Fordham Envtl. L. Rev.ironmental Law Review, Vol. 20, Nos. 2 & 3 (Winter 2010): 427-68 (highlighting the Searchlight project and describing the unanimity of local opposition) (on the enclosed CD-ROM).

Comment is speculative. The EIS describes impacts judged likely after project construction, not impacts anticipated by some prior to construction.

3. The DEIS fails to estimate the benefits of protected lands for the local economy.

The mere presence of undeveloped public lands and the natural and recreational amenities that they provide produce measurable economic benefits for local communities. Development of the project will dramatically reduce these benefits, which should be assessed in

IMPLAN is the accepted standard for NEPA analysis. Tourism and Recreation businesses are included. The set of amenities available to potential amenity in-migrants is not judged to have changed substantially as a result of this project. Section 4.12-Socioeconomic Impacts has been updated to include potential effects on recreation and tourism. For further information see the newly added ppendi x F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

the Final EIS and any supplemental DEIS. The impacts on undeveloped lands represent a significant class of costs that must be addressed.

The economic benefits of undeveloped lands for local economies is well documented and has grown in importance as the U.S. moves from a primary manufacturing and extractive economy to one more focused on service sector industries. This shift means that many businesses are free to locate wherever they choose. The "raw materials" upon which these businesses rely are people, and study after study has shown that natural amenities attract a high-quality, educated and talented workforce – the lifeblood of these businesses.

As the economy of the West evolves, public lands, especially areas protected from development, are increasingly important for their non-commodity resources – scenery, wildlife habitat, wilderness, recreation opportunities, clean water and air, and irreplaceable cultural sites. A vast and growing body of research indicates that the economic prosperity of rural Western communities depends more on the natural amenities found on public lands and less on the extraction of natural resource commodities.[17]

New residents in the rural West often bring new businesses, and these are rarely tied to resource extraction or other development on public lands. Some are dependent directly on the recreation opportunities on the surrounding public lands. Entrepreneurs are also attracted to areas with high levels of natural amenities. The Federal Reserve Bank of Kansas City has found that the level of entrepreneurship in rural communities is correlated with overall economic growth and prosperity (Low 2004). These businesses may be harmed or deterred if the quality of the scenic and natural amenities is degraded due to renewable energy developments. The Final EIS for the Searchlight Wind Project must assess the value of undeveloped public lands and include criteria which will ensure that the economic role of these lands is not deterred when these renewable energy developments and any associated transmission lines are constructed.

Retirees and others who earn non-labor income are also important to rural western communities. Investment and retirement income makes up 31.9% of total personal income in Clark County and 33.7% in Nevada.[18] If this income were considered an industry it would be nearly as important as tourism, and—like tourism—is likely to be negatively impacted by the proposed transmission project. Retirees are attracted by natural amenities that are available on undeveloped public lands. The potential impact that the development of the project will have on

[17] See Whitelaw and Niemi 1989, Rudzitis and Johansen 1989, Johnson and Rasker 1993 and 1995, Freudenburg and Gramling 1994, Snepenger et al. 1995, Deller 1995, Power 1995 and 1996, Bennett and McBeth 1998, Duffy-Deno 1998, McGranahan 1999, Nelson 1999, Rudzitis 1999, Morton 2000, Lorah 2000, Rudzitis and Johnson 2000, Deller et al. 2001, Johnson 2001, Shumway and Otterstrom 2001, Lorah and Southwick 2003, Rasker et al. 2004, Holmes and Hecox 2004 and Reeder and Brown 2005, Sonoran Institute 2006, and Barrens et al. 2006 and Haefele et al. 2007.

[18] Source: U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System (http://www.bea.gov/). Figures are for 2009, the most recent year available with this detail.

IMPLAN is the accepted standard for NEPA analysis. The set of amenities available to potential amenity in-migrants is not judged to have changed substantially as a result of this project. Section 4.12-Socioeconomic Impacts has been updated to include potential effects on recreation and tourism. For further information see the newly added ppendi x F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines

this source of income and economic activity must be accounted for in the Final EIS and any supplemental DEIS.

Growth in the professional and service sector is also tied to the natural and other amenities in the area. Protected public lands in the region enhance the West's attractiveness for both skilled workers and employers. Protected public lands provide indirect support for local and regional economies, a fact that is increasingly being recognized by communities throughout the West. These lands provide a scenic backdrop, recreation opportunities and a desirable rural lifestyle, and many other tangible and intangible amenities that attract new residents, businesses and income to the rural West. Many businesses are able to conduct national or international commerce from any location they choose. Other entrepreneurs simply choose to live in a particular place and build businesses in response to local needs. Research conducted by The Center for the Study of Rural America, at the Federal Reserve Bank of Kansas City (the Rural Center) has found that entrepreneurship is a strong indicator of rural economic health (Low 2004, Low et al. 2005, Thompson et al. 2006). The Rural Center has included entrepreneurship along with several other indicators of rural economic potential into a set of Regional Asset Indicators (Center for the Study of Rural America 2006a). These indicators include the natural and human amenities of a region – many of which are closely tied with undeveloped public lands (Weiler 2004).

IMPLAN is the accepted standard for NEPA analysis. The set of amenities available to potential amenity in-migrants is not judged to have changed substantially as a result of this project. Section 4.12-Socioeconomic Impacts has been updated to include potential effects on recreation and tourism. For further information see the newly added ppendi x F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

Nevada and Clark County both have levels of human and natural amenities which are higher than the national average due in part to protected and undeveloped public lands. This is even more true near Searchlight, where the vast majority of public lands in the vicinity of the town carry some sort of protected status. The role of these lands in these areas' economy and the potential impact of project and associated generation development must be addressed in the Final EIS and any supplemental DEIS.

Section 4.12-Socioeconomic Impacts has been updated to include potential effects on property values.

Research into what motivates entrepreneurs and businesses to choose particular locations consistently finds that amenities and quality of life top the list (Rasker and Hansen 2000, Snepenger et al. 1995, Rasker and Glick 1994, Whitelaw and Niemi 1989). Developing the proposed energy transmission project on undeveloped public lands may hinder the impacted communities' ability to attract more small businesses into the region to further enhance this sector.

These findings together point to the value of public lands to strong local economies. The impacts of development of the proposed project on these lands must be addressed in the Final EIS. To site generation and transmission, even for renewable energy development, in a way that impairs these natural amenities would be short-sighted at best. The Final EIS and any supplemental DEIS should address this issue and provide detailed criteria to protect the economic benefits associated with undeveloped public lands.

The socioeconomic analysis in the Final EIS must also adequately address the potential impacts on the quality of life for residents of communities that will be impacted by the transmission development. The quality of life in many communities with abundant protected public lands is often tied inextricably with those lands. Any negative impacts on these lands from

transmission development may deteriorate aspects of the western quality of life. As discussed above, such a decline will create more than simply emotional or psychological impacts. Areas with high quality of life are better able to attract the entrepreneurs, skilled and creative workers, retirees and others who are important economic drivers of many western communities.

This development will also likely have impacts on local private property values due to the loss of local open space. There is a large body of work which looks at the positive impacts of open space and protected public lands on property values.[19] These studies can be applied to infer the inverse decline in property values associated with the loss of protected public lands and open spaces that may occur when energy transmission facilities are sited on such lands. Numerous studies show that there is a positive correlation between property values and open spaces and protected public lands. McConnell and Walls (2005) provide a good overview of both property values and non-use values associated with open spaces. All of these studies provide empirical evidence of the potential losses to western citizens from the conversion of open space to industrial use. Given that the proposed energy transmission development will impact public land and open space throughout the area, it is likely to have negative impacts on the property values in the region. It is especially important to estimate this impact on landowners who are not being compensated for direct use of their property.

Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. A literature review on property value impacts has been added in ppendi x F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

BLM must include a thorough examination of the full socioeconomic impacts likely to occur if the proposed energy transmission project impacts undeveloped lands. Suggested analyses and sources of data can be found in *"Socio-Economic Framework for Public Land Management Planning: Indicators for the West's Economy"* on the enclosed CD-ROM

Although the BLM has reviewed the document provided, IMPLAN is the current accepted standard for NEPA analysis.

The Final EIS and any supplemental DEIS must also include an assessment of impacts on the local quality of life that are may result from the development of energy transmission on surrounding public lands. The potential resulting economic impacts of any decline in quality of life must also be assessed in order to fully evaluate the proposed development.

"Quality of life" is composed of many elements including noise, visual, recreation etc., all of which are discussed throughout Chapter 4.0-Environmental Consequences

The Final EIS and any supplemental DEIS should include a quantitative analysis of the impacts on residential property values due to the loss of open space and undeveloped public lands from the development of the proposed energy transmission and associated generation.

4. The DEIS economic analysis failed to account for non-market costs and benefits.

One of the most important purposes of public lands, including those administered by the Bureau of Land Management, is the provision of public goods or non-market goods. Opportunities for solitude, outdoor recreation, clean air, clean water, the preservation of

[19] Several examples of studies of the impact of open space on property values include Earnhart (2006), Bengochea Morancho (2003), Espey and Owosu-Edusei (2001), Bolitzer and Netusil (2000), Lutzenhiser and Netusil (2001), Geoghegan et al. (2003), Geoghegan (2002), Acharya and Bennett (2001), Irwin (2002), Tajima (2003), Luttik (2000), Loomis et al. (2004) and Breffle et al. (1998).

wilderness and other undeveloped areas would be underprovided if left entirely to market forces. The proposed generation and transmission project will most certainly have an impact on the level of non-market benefits associated with the Piute-El Dorado ACEC, the Lake Mead NRA, and other protected and lands possessing opportunities for solitude and quiet recreation in the vicinity of Searchlight.

The assessment of the socioeconomic impacts in the FEIS and in any supplemental DEIS for the proposed project must account for the non-market values associated with undeveloped wild lands. The BLM has an inherent responsibility to see that these lands are not impaired in order to ensure that the public goods they produce continue to be provided and in quantities that meet the demand of all U.S. citizens.

Non-market values have been measured and quantified for decades. There is a well-established body of economic research on the measurement of non-market values, and the physical changes (which result in decreases in the source of these values) brought about by development are very easy to measure quantitatively.

This analysis is especially important when considering actions which would degrade or damage undeveloped lands since these lands produce benefits and values that are seldom captured in the existing market structure. The literature on the benefits of wilderness and other undeveloped lands is well-established and should be used by BLM to estimate the potential value of these lands where the project is proposed and the surrounding areas that will be affected by the project. Krutilla (1967) provides a seminal paper on the valuation of wilderness and has led the way for countless others who have done additional research all providing compelling evidence that these lands are worth much more in their protected state. Morton (1999), Bowker et al. (2005), Krieger (2001) and Loomis and Richardson (2000) provide overviews of the market and non-market, use and non-use values of wilderness and wildlands. See Walsh et al. (1984), Bishop and Welsh (1992), Gowdy (1997), Cordell et al. (1998), Loomis and Richardson (2001) and Payne et al. (1992) for several more examples.

Peer-reviewed methods for quantifying both the non-market and market costs of changing environmental quality have been developed by economists and are readily applicable to solar energy development. For a catalog of these methods see Freeman (2003). For a complete socioeconomic analysis, BLM should adapt these methods to conditions in the impacted areas to obtain a complete estimate of the economic consequences of the proposed transmission development.

BLM must measure and account for changes in non-market values associated with the proposed energy development. To do otherwise omits a very important socioeconomic impact that would directly result from this development. The analysis must assess the non-market economic impacts to all Americans, including the passive use values of undeveloped public lands.

5. The DEIS relies entirely on economic base models to predict economic impacts.

The use of economic base models such as IMPLAN in Section 4.12 (socioeconomic impacts) is insufficient to predict future economic impacts from the development of industrial-scale energy generation and transmission facilities. While these models can be useful as a tool to develop static analyses of the regional economy, the BLM and local communities potentially impacted must be aware of the shortcomings and poor track record of such models as predictive tools. Economic base models do not consider the impacts of many important variables that affect regional growth in many rural communities, especially in the West. Attributes such as natural amenities, high quality hunting, fishing and recreational opportunities, open space, scenic beauty, clean air and clean water, a sense of community, and overall high quality of life are not measured or accounted for in economic base models, however these amenities are associated with attracting new businesses and migrants as well as retaining long-time residents. For example, many residents of rural Nevada communities (both long-time and new) earn retirement and investment income, and while it is technically possible, most economic base models completely fail to consider the important economic role of retirement and investment income.

Many economists have offered constructive critiques of the such models. See for example: Krikelas (1991), Tiebout (1956), Haynes and Horne (1997), Hoekstra, et al. (1990), Richardson, 1985 and the Office of Technology Assessment (1992). The ease of data acquisition for estimating the impacts of manufacturing, construction and resource extractive sectors combined with the difficulty of estimating the impacts of recreation and tourism underscores the potential bias favoring development in economic base models. The concern over the accuracy of these models combined with concern over the use of such models for planning, suggests that it is not only inappropriate but a disservice to rural communities to rely on economic base analyses to estimate the economic impacts of public land management on rural communities.

The estimated effects of the one-time payment to landowners should not be included with the effects estimated for project employment. The Final EIS and any supplemental DEIS should show exactly what the multipliers being used are and should separate these two effects for all alternatives and the common impacts (the same transparency is necessary for the income effects). Furthermore, this analysis of employment and income does not consider the potential adverse impacts on other local businesses and industries (such as recreation and tourism) which will likely be impacted by the construction and operation of the project.

The analysis performed for the Final EIS must not rely solely on IMPLAN or on other models derived from economic base theory to predict the economic impacts of energy transmission development. When such analysis is used, the impacts on other economic sectors (recreation and tourism especially) must also be analyzed, and these changes should be presented to show net gains/losses due to the proposed development.

As we have discussed above, the relationship between public land management and local and regional economic prosperity and growth is far more complex than these models assume, and given the potentially significant impacts on many of the region's public lands, use of such

IMPLAN is the accepted standard for NEPA analysis.

The proposed project does not have a provision for a one-time payment to landowners. Tourism and recreation businesses are included in the IMPLAN model.

models in the DEIS has resulted in an incomplete and inadequate analysis of the socioeconomic impacts.

Furthermore, where IMPLAN is used to project income and employment effects all multipliers and all assumptions used to derive them must be provided for review.

H. The DEIS fails to adequately evaluate impacts to cultural and archeological resources, including impacts of development on sacred sites.

The DEIS states that the cultural report is "in progress." DEIS at 1-15. Accordingly, the DEIS fails to present relevant information about the utility-scale wind project's impacts to cultural resources. The DEIS makes clear that the area within which the project would be built has spiritual significance to several tribes, DEIS at 3-36, and in particular that Spirit Mountain, about 10 miles south of the project site, has special significance to the Yuman tribes. The project is in the viewshed of Spirit Mountain. The area also has spiritual significance for the Colorado River Indian Tribes (Mohave, Chemehuevi, Hopi and Navajo). Spirit Mountain was added to the National Register of Historic Places in 1999. The mountain, considered the beginning of creation, is so sacred to Indian tribes in Nevada, California, Arizona and Mexico that background from its application for the national listing is not available to the public, even through a Freedom of Information Act request.

However, the DEIS does not disclose how the project will affect these cultural resources. DEIS at 4-38 to 4-40. The DEIS has not demonstrated that BLM has complied with Section 106 of the National Historic Preservation Act ("NHPA"), 16 U.S.C. § 470(f), and related regulations, 36 C.F.R. §§ 800 *et seq*.

The purpose of the NHPA is to preserve the history and prehistory of this country and protect for future generations the historical and cultural resources that are part of the Nation's heritage. Section 106 requires federal agencies to consider the impact of their "undertakings" on historical properties:

> Section 106 of NHPA is a "stop, look, and listen" provision that requires each federal agency to consider the effects of its programs. . . . Under NHPA, a federal agency must make a reasonable and good faith effort to identify historic properties; determine whether identified properties are eligible for listing on the National Register based on criteria in 36 C.F.R. § 60.4; assess the effects of the undertaking on any eligible historic properties found; determine whether the effect will be adverse; and avoid or mitigate any adverse effects.

Muckleshoot Indian Tribe, 177 F.3d at 805.

The existing documentation provides no evidence that BLM complied with Section 106. There is no indication that BLM adequately consulted with members of the interested public, including potentially affected tribes or tribal members. *See* 36 C.F.R. § 800.4(a) (requiring BLM to "determine and document the area of potential effects, as defined in [36 C.F.R.] § 800.16(d),"

The cultural resources report has been completed and Native American consultation has been conducted. The results of the cultural inventory and tribal comments are summarized in the Final EIS. Views from Spirit Mountain and impacts are discussed in Section 3.9-Visual Resources 4.9-Visual Resource Impacts, and Section 5.2.5-Native American Consultation.

identify historic properties, and to affirmatively seek out information from the State Historic Preservation Officer, Native American tribes, consulting parties, and other individuals and organizations likely to have information or concerns about the project's potential effects on cultural properties). BLM should comply with the requirements of the NHPA and disclose information about effects on cultural resources to the public.

To adequately address impacts to cultural resources, and comply with the NHPA and NEPA, BLM must evaluate (in its NEPA document) how the project will impact significant cultural and traditional landscapes of the Chemehuevi and other tribes. Will the remaining five sites identified as NHPA-eligible be evaluated prior to any construction taking place? DEIS at 3-35. Elders from the Mohave and Chemehuevi Tribes have stated to us that they have not had the opportunity to walk the proposed project site to identify cultural resources. Both are in agreement that there are ancient trails transecting the site. Have these trails been identified? Further investigation and mapping of trails and prehistoric sites in the area should be performed. A regional assessment of trail systems, archaeological sites, sacred sites, viewsheds to sacred landmarks such as Spirit Mountain should be undertaken. Oral histories of local tribal members should be recorded to gain an understanding of the impacts of the industrial-scale wind project to an area which is significant to them. More outreach to the Colorado River Indian Tribes needs to be done, to insure that sacred, historical and unmapped archeological sites are not damaged or destroyed.

The DEIS states ". . . Five sites identified as NRHP eligible are located within proposed road routes or tower locations and may receive direct impacts from project related construction activities." DEIS at 3-26. Will the proposed roads or turbines be relocated to prevent destruction of these sites? If not, why not? Is the history of the region that unimportant to the applicant, which has no ties to the southern Nevada area?

I. The DEIS fails to give adequate consideration to likely impacts to water resources.

The DEIS provides little concrete information about the impacts to water resources. Why has BLM not provided an estimate of the *total* amount of water that would be used by this project? Some of the estimates that appear in the DEIS seem to be related to other similar projects, not estimates directly from Duke applicable to the needs of this project.

In describing the features common to both action alternatives, the DEIS states the water will come from the Searchlight Municipal Water System. DEIS at 2-27. Where are the fire hydrants that the contractor will use? These are not identified in the DEIS. How will traffic to the water hydrant(s) be controlled? Will this public water system be over-drawn by the contractor's use of water? What guarantee is there that using this amount of water won't result in the town being short of water? BLM must disclose whether the *actual* projected use of water for this project will cause water shortages for the citizens of Searchlight.

The project would take its water from the Searchlight Water System "or another existing water right in the Searchlight area." DEIS at 4-15. However, it appears that the water rights to

The sites are evaluated in more detail in the cultural resources report. The Class III cultural resources survey was conducted within the Area of Project Effect (APE), currently defined as the potential disturbance area plus a 200-ft. buffer around all new and existing access roads, transmission lines and project facilities. Most of the sites found in the project area relate to historic mining activities that took place in the early 20th Century. Only six sites were prehistoric with seven being primarily historic mining sites with one prehistoric artifact or feature. No physical trails were located during the cultural resources investigations or reported by the Tribes consulted. A Memorandum of Agreement (MOA) between the BLM and the Nevada State Historic Preservation Office will address mitigation measures. Consultations between the BLM and the tribes began in 2009 and have continued through the NEPA process. Comments received are summarized in the Final EIS. An ethnographic/ethnohistoric study is a mitigation measure (MM CR-2).

Section 4.3.2.2-Proposed Action – 96 WTG Layout Alternative and Section 4.3.2.3-87 WTG Layout Alternative have been updated to include water usage estimates for construction of the wind facility. Western will estimate the actual water demand during the ensuing phases of the NEPA process.

In the event that SWS will provide the water for this project, SWS staff will determine the actual source connection. SWS technical staff will determine the volume and rate of water that can be provided to this project. As with most other water rights holders, SWS cannot exceed its duty.

In addition to SWS resources, there are approximately 620 acre-feet of existing rights, of which 311 are quasi-Municipal. The Applicant will coordinate with the Las Vegas Valley Water District to support the water needs for the project. If sufficient resources are not available, the Applicant will procure water from local willing sellers

groundwater may not be readily available. DEIS at 3-16. BLM has not disclosed the total amount of water the project will need, or whether it will be possible to obtain the rights to such water. BLM should disclose information about Duke's proposed water rights purchases and transfer applications for public review. Without accurate information about the potential to obtain rights to the needed water (or accurate information about the amount of water needed), BLM cannot make a non-arbitrary decision to approve the ROWs for the project.

The DEIS notes that there are several private wells within the project area. DEIS at 3-15. What effect might the blasting have on these wells? People who have residences in this area and have installed private wells have spent a great deal of money to develop the wells on their property. Will Duke compensate residents whose wells are damaged or destroyed by the blasting? In addition, the DEIS notes that the springs listed are an important source of water and habitat for wildlife. *Id.* One laydown area and a substation are shown directly across Cottonwood Cove Road from Boat Tank Spring. What effect will the construction phase, and the long-term operation of the project, have on the wildlife that is dependent on this spring? Why are the aforementioned structures placed in such close proximity to a spring that is vital to survival of the areas wildlife? What mitigation will BLM require to protect the spring?

Assuming that the contractor will get water for the project from the Searchlight Water System/Las Vegas Valley Water District, how will this affect the quantity of water available for the residents of Searchlight over the long term? *See* DEIS 3-15. Water is at a premium throughout southern Nevada. What is the probability that the use of water required to build this project; i.e., dust control, concrete mixing, etc., would leave Searchlight Water System without enough water to provide for its residents?? Water levels in the community well at the nearby town of Cal-Nev-Ari have dropped dramatically in recent years. There has not been enough precipitation in the area to recharge the aquifer. As noted in Paragraph 3.3.2.5, the committed water resources in the region are many times greater than the rate of recharge.

In terms of the impacts to water resources, the DEIS provides no concrete information about the overall projected water usage or its actual likely impacts to local water users. Rather, it makes only improper, general statements about impacts. For example, the DEIS states "The Proposed Action *would* affect water resources *if* it . . . Decreases groundwater supply . . ." DEIS at 4-14 (emphasis added). This is not speculative: there is a high likelihood this would occur. Not only would there be heavy water usage for construction and dust mitigation, but continued water use as the many miles of road will require ongoing maintenance and dust control. BLM must quantify the amount of water that would be used, and then evaluate what that will do to other water users in the area. In addition, will water be used to control dust on the areas stripped of vegetation for fire breaks? Once the natural vegetation is stripped, the area will become a prime area for infestation of non-native plants and noxious weeds. The only logical conclusion that BLM can arrive at to preserve the existing ecology of the area, as well as preserve the rights of the people who live in the area to have access to an adequate supply of potable water, is to adopt the "no action" alternative. DEIS at 4-14.

At page 4-15, the DEIS states that approximately 30 acre feet of water would be used for dust control, concrete mixing, etc. Will this over-draw the Searchlight Water System? According

Refer to Section 3.3.2.4-Groundwater Resources for the proximity of wells to the project area. Considering the distance from the construction site to the wells, the engineered blasting should have no effect. Liability clauses will be in place for the unlikely event that there is damage to personal property. All construction methods must meet Clark County codes. The materials laydown yard location is proposed for the west-central portion of the site, along with east end of the access road. This is not near the Boat Tank Spring. The construction area footprint does not encroach on any of the 5 springs identified within the project area. There is, however, a mining operation in the vicinity of Boat Tank Spring.

Ultimately, it's the responsibility of the State Water Engineer when issuing the municipal rights to ensure that it won't deplete the aquifer. It's the responsibility of SWS and/or LVVWD to put their rights to beneficial use, which in the case of municipal supply is to sell it.

The firebreaks will need to be stabilized, either with water or some other approved method. Once stabilized, the firebreaks should no longer require watering, as no vehicle traffic is expected that would break the crust. Section 4.3.2.2-Proposed Action – 96 WTG Layout Alternative and Section 4.3.2.3-87 WTG Layout Alternative have been updated to include water usage estimates for construction of the wind facility.

The DWR estimates a perennial yield of 300 acre-feet for Piute Valley. Unfortunately, DWR does not have a current pump inventory for any of the three basins in which the project is located. Based on Mr. Bundorf's estimate, SWS pumped slightly over half of the perennial yield last year. The available amount of water in Piute Valley may depend on the volume of water utilized by other rights holders in the valley (private residences, mining and quasi-municipal users). As with most other water rights holders, SWS cannot exceed its duty.

to Jordan Bunker of the Las Vegas Valley Water District (LVVWD), the town of Searchlight pumped about 55,500,000 gallons of water—170 acre feet—in 2011 (J. Bundorf personal communication Apr. 9, 2012). What guarantees are there that the water needs for the project won't result in a shortage of water for the town? Where is the analysis to demonstrate that? In addition, controlling dust in arid environments is very difficult. Given the dry climate and dusty soils in this area, it is likely that the 30 acre feet estimate will be exceeded. The DEIS should provide more information on the source of the water and the reasons that it assumes this estimate is valid.

One acre foot equals about 325,851 gallons. Assuming that an average Searchlight household uses 5,000 gallons per month, an acre foot would supply a family for five and one-half years. The (at least) 30 acre feet for construction and dust control is an excessive draw on the local water supply, and a waste of water in this arid environment, for a project that essentially has no benefit to the people in the immediate area of the project.

The DEIS states that this usage would not impact groundwater recharge, but lacks a basis for doing so because the DEIS provides no baseline estimating total available water resources in the area, but rather only the amount of groundwater resources that have been committed or appropriated. In general, recharge is much slower than the rate of draw down occurring in the Searchlight wells. Have studies been done to carbon date the water in the SWS wells, thus providing an estimate of recharge rate? If not, BLM should require Duke such a study performed, and disclose it to the public, to ensure that the 30 acre feet for construction, and another 30 acre feet for decommissioning, would not deplete the Searchlight water supply, and that of the town of Cal-Nev-Ari.

J. The DEIS fails to adequately evaluate noise impacts.

DEIS sections 3.10 and 4.10, covering noise, do not fully disclose or evaluate the likely noise impacts from the project. Densely written in technical jargon, they also do not comply with BLM's obligation under NEPA that an EIS "shall be written in plain language … so that decision makers and the public can readily understand them." 40 C.F.R. § 1502.8. As described in detail above, they omit crucial baseline and effects information and analysis regarding noise impacts to desert tortoises, bighorn sheep, birds, and recreationists, and on nearby protected areas. In a supplemental DEIS, please disclose and evaluate the effects of noise to recreational users who would be hiking and camping in the Searchlight Mountains, as well as the noise impacts to desert tortoises, bighorn sheep, and other wildlife and birds that would use this area.

While the data presented appears to be impressive, *e.g.* DEIS at 3-80, other countries have been studying noise emitted by WTGs for longer than the U.S. It has been determined that the types of noise and vibration created by wind turbines is unique. It is not only annoying but actually has serious negative effects on the health of nearby residents, and cannot be measured with traditional methods of measurement.

BLM and Duke need to research and incorporate data from studies done within the past two years that apply specifically to industrial scale wind turbines. The mere fact that Duke

LVVWD has rights for 4358 acre-feet of water. Based on the commenter's assumptions, SWS could provide water for 23,666 families per year, which is significantly greater than the current population. As with most other water rights holders, SWS cannot exceed its duty.

Refer to Section 3.3.2.4-Groundwater Resources for a description of Piute Valley recharge. Recharge occurs either via vertical percolation or via lateral flow from upgradient sources. The legal baseline for estimating impacts to an aquifer is the recorded Perennial Yield, which for Piute Valley is 300 acre-feet. An estimated 160 acres will be finished with impermeable materials; cement, asphalt and/or buildings. The estimated reduction of permeable surfaces across the 18,949 acres development would be less than 1%. The relative "age" of groundwater cannot be determined via carbon dating. An aquifer's water quality is predominantly determined by the media type, temperature and contact time. The higher the concentrations, typically, the older the water. This method, however, cannot accurately quantify the "age". The relatively low concentration of ions in the Piute Valley alluvial aquifer, in which the SWS wells are screened, indicates that the residence time of the water is relatively brief.

Section 3.10-Noise and 4.10-Noise Impacts has been clarified to the extent possible. Section 4.4.4-Wildlife has been updated to include the impacts of noise on wildlife.

Comment noted. The modeling study conducted for this project is the accepted standard for NEPA analysis. Refer to Section 4.10.2-Direct and Indirect Effects by Alternative for the explanation of conservative assumptions that were used in the noise modeling analysis.

requested, and Clark County granted, a variance to increase the allowable noise level for the project area by sixteen percent (16%) indicates that applicant knows that wind turbines create noise that will affect the local environment.

Duke has been operating industrial wind energy facilities in Wyoming and Texas. Is data available from those locations on actual noise levels? Have complaints been lodged by people living near those wind projects? Applicant should provide this data to BLM and the citizens of Searchlight, and BLM should disclose these impacts as part of the NEPA process. Furthermore, articles and studies are available where residents living near wind energy facilities alternately describe the effect as "living next to a jet engine that revs up but never takes off"; or "sounds of thumping like tennis shoes in a clothes dryer"; and also described as a throbbing in head and chest from sounds and vibrations that are inaudible but felt throughout their body (infrasound). Please provide "plain language" disclosures of these impacts in the NEPA document.

Meanwhile, Duke's representative at the public information meetings, Mr. Robert Charlebois, characterized noise from wind turbines as "sounds like raindrops falling on leaves" or "sounds like your refrigerator running." Both comments are obviously meant to deceive those people whose communities will be forever altered by Duke Energy's plans, and whose quiet enjoyment of their rural lifestyle can never be recovered.

The "Region of Influence" studied was within two miles of private property. DEIS at 3-79. Some of the residences are only one-quarter mile from the turbines. These residences will, no doubt, not be fit for human habitation due to noise if this project is built. Additionally, studies have shown that under certain atmospheric conditions, noise from WTGs can be heard for 15 kilometers (approximately nine miles). This range would include Lake Mead National Recreation Area at Cottonwood Cove; the Spirit Mountain Wilderness Area; and all of the communities of Searchlight and Cal-Nev-Ari.

"[T]he Lake Mead NRA has proposed that noise levels from adjacent wind [projects] to not exceed L_{eq} level of 35 dBA during nighttime hours on park lands." DEIS at 3-81. Is this lower sound level guaranteed at night? Will applicant be required to shut down the turbines at night if this level cannot be achieved? In other communities, turbine operators have voluntarily done this to comply with noise statutes. As mentioned above, studies have shown that nighttime noise levels can be up to 15 decibels higher than daytime levels, yet the 35 dBA contours for both action alternatives already stretch up to or over the Lake Mead NRA border. It is likely that nighttime noise levels will exceed the threshold required by the National Park Service to maintain intact the current soundscape within the Lake Mead NRA—particularly given the prevailing winds from the south and southwest that will tend to propagate noise from the project site towards the NRA. Revised POD at 1-10.

The first paragraph on page 3-84 lists locations of nearby residents, but omits any mention of the homes off of Oregon Trail Road. Why? These are the people who live the closest and will be most impacted by the project. These are also the same properties that do not show up on the 2009 map indicating private property parcels as outlined and shaded areas. Several of

The modeling study conducted for this project is the accepted standard for NEPA analysis. Refer to Section 4.10.2-Direct and Indirect Effects by Alternative for an explanation of the conservative assumptions that were used in the noise modeling analysis. In summary, the noise modeling is considered "conservative" because it assumes that all receptors (i.e. residences) are downwind of the noise sources (i.e. WTGs) simultaneously, which is a physical impossibility but one that results in a conservative calculation of maximum expected sound levels.

Additionally, Figure 4.10-1. Noise Contours for the 96 WTG Layout Alternative and Figure 4.10-1. Noise Contours for the 96 WTG Layout Alternative represent the highest sound output from the turbines under maximum wind conditions. Sound levels from turbine operation will be lower under lower wind speeds, and non-existent during winds speeds below cut-in (typically 4 m/s) wind speeds.

No peer reviewed scientific studies indicate wind turbine sound being audible at a distance of 15 kilometers over land. See noise modeling presented in Section 4.10.2-Direct and Indirect Effect by Alternative for discussion on the conservative projected noise levels in the area. These models are considered conservative because the model assumes that all receptors are downwind of the noise sources simultaneously, which a physical impossibility but one that results in a conservative calculation of maximum expected sound levels.

Noise modeling presented in Section 4.10.2-Direct and Indirect Effects by Alternative indicates that at the park boundary noise levels would be less than 35 dBA (~25-27 dBA).

Section 3.10.2.3-Surrounding Land Uses and Potential Noise-Sensitive Receivers, has been updated to include residents on Oregon Trail Road.

these parcels were also omitted from Table 4.10-4 (Predicted Operation Noise – 87 WTG Layout Alternative). The table estimates expected noise levels at other nearby private property parcels.

The paragraph also states that no residences are closer than 1000 feet from turbines. Many communities are placing setback for wind turbines from residences at two kilometers (1.2 miles). Just because Clark County does not have this restriction does not mean it should not apply to the residents of the community of Searchlight. Applicant should be required to redesign the project to meet the 2 kilometer setback from ALL private property.

The noise modeling analysis included residential properties that were nearest to any wind turbine locations. Parcel 24324000010, which was included in the analysis, is closer to a wind turbine than parcel 24324000011. Similarly, Parcel 2432400021, which was included in the analysis, is closer to a wind turbine than parcel 24324000012.

The DEIS uses data from the 2000 Census. DEIS at 3-86. A census was conducted in 2010. Twelve year old data, given the changes in the country's economy and population in the past five years, is irrelevant. We request that BLM revise the DEIS to include 2010 census data, because failing to do so will mean that BLM has not complied with its obligation under NEPA to provide high-quality data for public review.

Section 4.12-Socioeconomics has been updated to reflect 2010 Census data, resulting in a change in the noise section from 576 to 555; however, this did not change the results of the analysis.

The DEIS spends untold pages discussing the methodology, etc. DEIS at 4-79. The fact is that most people who will be affected could tolerate the construction noise for the 8 to 12 month period. This is assuming the construction will not occur 24 hours per day for 365 days. What is totally unacceptable is having to live with the noise from wind turbines for 30 to 50 years. The turbine sound is never-ending, and is, in fact, 24 hours per day, 365 days per year.

The 1,400 feet setback from a wind turbine from private property is entirely inadequate. DEIS at 4-81. Clark County and BLM should develop standards for wind projects, similar to what is happening in other parts of the U.S., which would require a minimum setback of two kilometers (1.2 miles) from private property.

The DEIS states "Blasting might be necessary in order to construct access roads and set turbines." DEIS at 4-82. Change "might" to "will." The hardness of the granitic bedrock will make the use of blasting necessary in much of the project area.

It is not certain that blasting will be necessary because on the ground geotechnical studies have not yet been conducted.

The source of the Wind Table data is from Duke Energy. DEIS at 4-84. It would be far more believable if the data was from an independent source, or if BLM had exercised its independent obligation under NEPA to verify and evaluate the information in the NEPA document. As stated earlier in these comments, the Duke Energy representative's description of sounds from wind turbines is not credible.

The data in Table 4.10-2-Operation Noise Model Parameters, were provided by a wind turbine vendor, and represent the sound power level of the turbine as measured according to IEC 61400-11:2002. This standard was specifically developed to quantify noise output from wind turbines.

BLM must require the applicant to do more computer modeling with different inputs for temperature, humidity, and including other ambient noise. DEIS at 4-84. Certainly an industry with twenty years of experience with wind turbines has computer programs that can model a variety of conditions, and BLM—as an expert land management agency—possesses the expertise to evaluate such data. Additionally, are there not studies available that were performed in the field with actual operating wind turbines? The area around Palm Springs, California has similar terrain and atmospheric conditions. What studies on turbine generated noise are available?

Refer to noise modeling presented in Section 4.10.2-Direct and Indirect Effects by Alternative for discussion on the conservative projected noise levels in the area. The modeling study conducted for this project included very conservative assumptions that included all receptors being downwind from all turbines simultaneously (a physical impossibility), and the maximum sound output from the turbines under maximum wind conditions (25 m/s). Variations of temperature and humidity conditions would not be anticipated to result in significant changes to the already very conservative results.

The table on page 4-85 omits Parcel 24324000011? Why? This parcel has people living on it full time. They will be far more impacted than the undeveloped properties that are listed. Was this parcel left off intentionally? Also, Parcel 24324000012 was omitted. It, too, lies very close to the nearest turbines, but at present is undeveloped. This table should be redone, and sound data for these two parcels included, as well as other nearby parcels which were not omitted.

Clark Country approved the Special Use Permit in 2010, not 2011. DEIS at 4-87. Obviously, Duke is aware turbines create a lot of noise or it would not have applied for the Waiver of Standards to permit a 16 percent increase in allowable noise. Also, if noise for nearby property owners is excessive, will applicant turn off the turbines at night? *Id.* This has been required in other parts of the country.

What are the "applicable APMs and MMS"? DEIS at 4-91. Would this include turning off turbines at night, or if this is not successful in giving the landowners relief, buying out the property of the people who are affected?

K. The DEIS fails to adequately evaluate effects on human health and safety.

The DEIS does not adequately disclose potential effects on human health and safety. In describing the supposed mitigation measures, the DEIS describes that "fire prevention" will be provided by the Clark County Fire Department Rural Station 75 located in Searchlight. DEIS at 2-49. However, the small volunteer fire department in Searchlight is totally unprepared to fight the types of wildfires created by failed wind turbines or construction machinery, which can quickly spread over thousands of acres of rough terrain. BLM's nearest fire station is approximately 40 miles away; Laughlin and Boulder City are also at least 40 miles away. All of those stations are approximately one-hour travel time away. Short of creating a fire break around all residences and the entire town of Searchlight (and destroying even more desert vegetation), there is a very good chance that the entire town could be destroyed by a turbine-caused wildfire under the often bone-dry, windy conditions present near the site before adequate fire-fighting capacity arrived.

There should be serious concerns about turbine-caused wild fires, and more complete disclosure of the potential for fires than currently appears in the DEIS. DEIS at 3-109, 4-120. One only needs to visit the Altamont area of northern California to see the frequency of fires within an industrial wind energy facility; BLM should disclose how frequently turbines at other generation sites cause fires. The cause may be equipment failure, or the attraction of lighting to tall structures. Summertime storms in the area of Searchlight are accompanied by a great deal of lightning strikes. Placing 428-foot tall turbines in an area of frequent electrical storms, where they will be the most prominent features in the landscape, should not be permitted.

The DEIS at page 4-120 describes the propensity for WTGs to cause fires. As discussed earlier, the local volunteer fire department may not be able to respond with enough fire-fighting capability to handle wind turbine caused fires, and other fire-fighting agencies are at least 40 miles distant. This would create a very hazardous situation for the residents of Searchlight. Also,

The noise modeling analysis included residential properties that were nearest to any wind turbine locations. Parcel 24324000010, which was included in the analysis, is closer to a wind turbine than parcel 24324000011. Similarly, Parcel 2432400021, which was included in the analysis, is closer to a wind turbine than parcel 24324000012.

The special use permit was obtained because noise levels would not be below the Clark County standard of 43 dBA at the property line, but the noise levels would be below such at the actual residences (see Table 4.10-3. Predicted Operation Noise – 96 WTG Layout Alternative and Table 4.10-4. Predicted Operation Noise – 87 WTG Layout Alternative). See noise modeling in Section 4.10.2-Direct and Indirect Effects by Alternative, for discussion on the conservative projected noise levels in the area. It is not anticipated that noise would exceed Clark County Noise Standards at residences; therefore, no mitigation is required.

Section 4.14-Health and Human Safety Impacts of the document contained a detailed description of the potential effects. Mitigation to reduce fire-related risk is described in MM SAFE-4: Construction Fire Prevention Measures. One measure was to maintain fire suppression equipment on site during construction.

Section 4.14-Health and Human Safety Impacts of the document includes also included on-site measures such as; To reduce fire risk, the Applicant would construct a 20-foot-wide firebreak on the exterior of the perimeter fencing surrounding the O&M building and the proposed substations, in addition to a 20-foot wide firebreak surrounding individual WTG locations (APM-7). Shrubs and other large vegetation would be removed from the firebreak. Grading or discing would maintain the firebreak.

The electrical equipment enclosures that would house the transformers would be either metal or concrete structures. Any fire that could potentially occur would be contained within the structures, which would be designed to meet National Electrical Manufacturers Association standards for electrical enclosures (APM-14).

Additionally, mitigation measure included as an inherent element of the project, APM-7, is for development and implementation of an Emergency Response Plan that would include fire suppression and control.

will exploding turbines cause rare Earth elements to leak into the region? Rare Earth elements, which may cause potential health hazards, are used in manufacturing high-efficiency wind turbines. Exhibits 10, 33. What is the fire/safety plan for this? Who is financially responsible for suppression?

The creation of the fire breaks mentioned would result in clearance of a large amount of desert flora. DEIS at 4-120. This would contribute to very dusty conditions throughout the entire project area. How would Duke prevent dust from blowing following clearing of all vegetation? What ROW conditions will BLM require to prevent this? Will this require even more water than originally stated? The DEIS also indicates a safety set-back from EACH TURBINE OF 886 FEET. *Id.* This would essentially preclude the use of the roads by ORVs, even though in several places in the DEIS one of the "benefits" stated would be the creation of the roads throughout the project. If the roads cannot be used within 886 feet of the WTGs, this essentially prevents the use of any of the roads by the public at any time.

The DEIS conveniently overlooks and fails to evaluate the most significant potential fire hazard/hazardous material/explosion hazard that has been by the applicant is the potential for damage to the high-pressure (300 to 600 psi) Southwest Gas Company gas pipeline(s) that passes by the east side of the town of Searchlight, and runs generally north-south the entire length of the project. DEIS at 4-14 (no discussion of gas pipeline). This gas pipeline is 40 to 50 years old, and in most areas is very near the surface. It enters the state near Laughlin and delivers natural gas to the Las Vegas metropolitan area.

By specification, the pipeline should have been buried a minimum of three feet below grade. However, given the hardness of the bedrock in the area, there is a very good chance that much of the pipeline lies less than three feet below the surface. It is likely that minimal consideration was given at the time to the long-term integrity of the line, and likely no precautions were taken against the imponderable possibility (at that time) that an industrial energy generation facility would be built literally on top of it. The potential for construction (blasting or surface construction) damaging the high pressure gas pipelines in the area is probably the most serious issue that the DEIS ignores. As illustrated by the gas pipeline explosion in San Bruno, California in September 2010, which killed eight and sent a fireball 1,000 feet into the air, or the June 2010 pipeline explosion in Johnson County, Texas, which killed three, construction activities near pipelines can have catastrophic effects.

In describing the transmission lines and pipelines on the project site, the DEIS lists the electrical transmission lines, but makes no mention of high pressure gas pipeline(s) that cross the full length of the project area. DEIS at 3-110, 4-119. Why are gas pipelines ignored in the text of the DEIS, when they are shown on several maps in the DEIS and briefly referenced in the "utility corridors" section? *E.g.* DEIS at 1-5 (Figure 3), 4-56. What safety provisions will be put in place to protect the workers and the residents?

Plans for the project show the gas pipeline(s) being crossed in at least three places by newly constructed roads. Additionally, the plans show a new road paralleling or perhaps on top of the gas pipeline north of town at Oregon Trail Road and extending south for about one-half

Water is the only soil stabilizing substance that is non-toxic. BLM only authorizes water to be used in T&E species habitat. Once stabilized, the firebreaks should not require additional watering. Dust control for the firebreaks will be factored into the O&M water demand. Dust control measures will be in accordance with DAQ requirements and it is not anticipated that fugitive dust emissions from firebreaks would exceed NAAQS.

Southwest Gas Corporation holds a ROW grant from BLM for an existing gas line within the project area. The grant is non-exclusive; therefore, the BLM reserves the right to authorize other actions within a ROW area for compatible uses. The Applicant will be required to coordinate with Southwest Gas should there be any pipeline crossings, e.g., roads, underground electrical collection systems, etc. The result of the coordination would be a legally binding agreement that such crossings would meet Southwest Gas-provided standards for engineering and applicable material requirements to ensure the safe and continued operation of the gas line.

mile (0.5 miles). This area is very rocky and irregular, and this is the area where it is likely that the pipeline was practically laid on the ground surface, and topsoil scraped into a berm over the top of it. A portion of the pipeline under Cottonwood Cove Road may have been reburied to a greater depth—but BLM owes the public the obligation to gather this information, disclose it, and evaluate the effects of the project on the pipeline.

What safety measures will be taken to prevent the compromise of this existing gas pipeline? If the gas pipeline were to be ruptured by the 15-axle trucks and other very heavy equipment that will be crossing over it, the resulting fire and explosion could literally wipe Searchlight off the map. It also would cut off a much of the supply of natural gas to the Las Vegas Metropolitan Area.

The blasting that will be required to excavate the WTG foundations, and/or the use of heavy-duty Ho-Ram type vibratory equipment could also compromise the integrity of this high-pressure gas pipeline. Why is there no mention of this in project documents? What provisions will be made to prevent a catastrophe?

South of Searchlight another area of the gas pipeline could be compromised by the turbine, road or underground collection line construction adjacent to or on top of the gas company easement. Also, how deep will the trenches be for the Pike Underground Collection System? The gas pipeline is a minimum of three feet deep. Will there be a potentially deadly conflict between the existing gas pipeline and the underground collection system in the area of WTG's 60, 74, 75 and 76 (preferred alternative numbering)? Has BLM or Duke done the research necessary to determine if those parts of the project need to be relocated?

The DEIS ignores potential human health effects from the dust that the project will cause, although it acknowledges that "[t]he soils in the Searchlight area are susceptible to erosion by wind and water." DEIS at 3-5. Removal of soil crusts and construction and operation of turbines and associated infrastructure is certain to increase the wind-caused erosion throughout the life of the project. The DEIS discloses that "[w]inds over 50 miles per hour (mph) are infrequent but can occur with vigorous storms. Winter and spring wind events often generate widespread areas of blowing dust and sand." DEIS at 3-37. The project is sited within two miles of the town of Searchlight, and along a major route used by tourists and residents to reach Cottonwood Cove in the Lake Mead NRA. Accordingly there is a significant possibility of adverse human health effects from blowing dust, in the form of respiratory illness, including Valley Fever. The DEIS does not disclose or evaluate the potential that construction and operation of the project will have adverse effects on human health, in particular the potential public health impacts from Valley Fever.

Valley Fever (coccidioidomycosis) is an infection caused by inhaling the microscopic spores of the fungus *Coccidioides immitis*. Spores are the tiny, thick-walled structures that fungi use to reproduce. Valley Fever is spread through spores from airborne dust as a result of ground disturbance. Coccidioidomycosis exists in three forms. The acute form produces flu-like symptoms. The chronic form can develop as many as 20 years after initial infection and, in the lungs, can produce inflamed, injured areas that can fill with pus (abscesses). Disseminated

According to the Center for Disease Control in 2010 there were over 16,000 reported cases of Valley Fever (i.e. coccidioidomycosis), the majority of which were located in Arizona and California (Accessed July 3 2012 at: http://www.cdc.gov/fungal/coccidioidomycosis/statistics.html.). According to the University of Arizona's Valley Fever's Center for Excellence, two-thirds of all infections in the United States occur in Arizona, mostly in the urban areas surrounding Phoenix and Tucson. (Accessed on line July 3, 2012 at: http://www.vfce.arizona.edu/GeneralInfo/default.aspx). This research suggests that although Valley Fever may occur in Nevada, it is not as likely compared to other parts of the southwest. This statement is supported by the information available from Southern Nevada Health District which documents less than 10 cases per year of Valley Fever have been reported in Clark County, Nevada to date (2009-2012) (accessed online July 4, 2012 at: https://www.southernnevadahealthdistrict.org/stats-reports/disease-stats-jan12.php.).

coccidioidomycosis describes the type of coccidioidomycosis that spreads throughout the body affecting many organ systems and is often fatal.

Coccidioidomycosis is an airborne infection. The fungus that causes the disease is found in the dry desert soil of the southwestern United States, Mexico, and Central and South America. Coccidioidomycosis is sometimes called San Joaquin fever, valley fever, or desert fever because of its prevalence in the farming valleys of California.

The chronic form of coccidioidomycosis normally occurs after a long latent period of 20 or more years during which the patient experiences no symptoms of the disease. In the chronic phase, coccidioidomycosis causes lung abscesses that rupture, spilling pus and fluid into the lungs, and causing serious damage to the lungs. The patient experiences difficulty breathing and has a fever, chest pain, and other signs of pneumonia. Medical treatment is essential for recovery.

In its disseminated form, Valley Fever diagnosis of coccidioidomycosis spreads to other parts of the body including the liver, bones, skin, brain, heart, and lining around the heart (pericardium). Symptoms include fever, joint pain, loss of appetite, weight loss, night sweats, skin lesions, and difficulty breathing. Also, in 30-50% of patients with disseminated coccidioidomycosis, the tissue coverings of the brain and spinal cord become inflamed meningitis.

BLM must consider the potential for respiratory illnesses occurring in local residents, resulting from the dust. Many of the local residents are elderly and susceptible to respiratory diseases; some even moved to Searchlight to escape air pollution in other parts of the country. There exists a significant possibility for outbreaks of Valley Fever due to the project. In 2009, in nearby Boulder City and Henderson, people contracted Valley Fever simply by outside on windy, dusty days. Exhibit 34. Valley Fever has been documented in many arid regions in the southwest US. There are reports of recent cases of Valley Fever in areas of Southern California deserts that are being stripped of vegetation for the installation of wind and solar projects. BLM must disclose and evaluate the human health impacts of this project, including its potential to cause incidents of Valley Fever among local residents and visitors.

The DEIS inadequately discloses the impact of noise, air pressure, flicker effect (from spinning turbine blades) and nighttime strobe lights on public health. A recent draft study by the Oregon Health Authority's Office of Environmental Public Health, entitled "Strategic Health Impact Assessment on Wind Energy Development in Oregon," outlines some significant health concerns from industrial-scale wind energy development. The study is enclosed on the CD-ROM. Please evaluate this information in revising the DEIS so it completely discloses potential health effects from the project. Turbines would be located within ¼ mile of populated areas and roads, including the Cottonwood Cove Road over which 300,000 people travel annually, far closer to area of human concentration than many wind projects.

The Strategic Health Impact Assessment reports that "Environmental noise in community settings is linked to sleep disturbance, annoyance, stress, and decreased cognitive performance

The Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Lands in the Western United States (2005) states that shadow flicker is not considered as significant an issue in the United States as in Europe. It does note that flickering effect may be considered an annoyance, but that modern three-bladed wind turbines are unlikely to cause epileptic seizures in the susceptible population due to the low blade passing frequencies. The relevant text from the Programmatic EIS states:

"When the sun is behind the blades and the shadow falls across occupied buildings, the light passing through windows can disturb the occupants (Gipe 1995). Shadow flicker is recognized as an important issue in Europe but is generally not considered as significant in the United States (Gipe 1995). The American Wind Energy Association (AWEA 2004) states that shadow flicker is not a problem during the majority of the year at U.S. latitudes (except in Alaska where the sun's angle is very low in the sky for a large portion of the year). In addition, it is possible to calculate if a flickering shadow will fall on a given location near a wind farm and for how many hours in a year (AWEA 2004). While the flickering effect may be considered an annoyance, there is also concern that the variations in light frequencies may trigger epileptic seizures in the susceptible population (Burton et al. 2001). However, the rate at which modern three-bladed wind turbines rotate generates blade-passing frequencies of less than 1.75 Hz, below the threshold frequency of 2.5 Hz, indicating that seizures should not be an issue (Burton et al. 2001). (Section 3-20)."

[7-9]. These effects, undesirable in their own right, can in turn adversely affect physical health." Strategic Health Impact Assessment at 6. "There is some evidence that wind turbine sound is more noticeable, annoying and disturbing than other community or industrial sounds at the same level of loudness [16-20]." *Id.* "A small number of epidemiological studies have linked wind turbine noise to increased annoyance, feelings of stress and irritation, sleep disturbance, and decreased quality of life [16-18, 22]." *Id.* The study concludes that "Sound from wind energy facilities in Oregon could potentially impact people's health and well-being if it increases background sound levels by more than 10 dBA, or results in long-term outdoor community sound levels above 35-40 dBA." *Id.* at 9. The rest of the study provides more details. Please also disclose and evaluate other studies that have shown potential health impacts from the noise and visual impacts associated with wind turbines.

Section 4.10-Noise Impacts discloses that noise levels at households are all below the standard and threshold set by Clark County.

The DEIS also fails to evaluate the Waiver of Development Standards that Clark County, Nevada, granted to Duke for the project. *See* Searchlight Wind PUC filing 11-2011 on enclosed CD-ROM. Clark County waived three significant development standards that limit development within the county. It waived the 2,000 foot set-back, allowing turbines to be constructed as close as 1,345 feet from a residential structure, with four turbines closer to homes than the 2,000 foot set-back. *Id.* at p. 11. It waived the 35 foot standard for height, allowing instead turbine construction up to 428 feet tall. *Id.* And it waived the normal nighttime noise limit of 43 decibels, allowing an increase to 51 decibels. *Id.* The DEIS does not disclose these waivers or evaluate the effects of the increased noise and proximity to residential areas that these waivers allow.

Section 4.10-Noise Impacts states" In 2011 Clark County approved a Special Use Permit application for the Proposed Project. They found that there were nighttime noise level exceedances at the property line, described above, but that at the actual residence locations the levels were all below the County's threshold. Therefore, the project was approved by Clark County."

The DEIS also fails to evaluate the potential social effects to a rural community from the importation of transient construction workers. The DEIS admits that it is "very common for a significant amount of specialized labor to be brought into the region from elsewhere (e.g., [wind turbine generator] erection crews)." DEIS at 4-100. However, the DEIS fails to describe how these out-of-area workers would result in increased traffic accidents, damage to existing roads, and increased crime. Such outcomes are not "beneficial" to a small, rural community, even though they may provide benefits which flow to other people outside the community. BLM should disclose and evaluate the likely societal impacts from increased presence of transient construction workers near the community.

Over 300,000 people travel Cottonwood Cove Road annually, the majority of which are from outside the community. The construction work force of would represent about 1% of that number.

L. The DEIS fails to adequately evaluate geology and hydrogeology.

The DEIS presents a cursory and incomplete overview of the geology and hydrogeology of the site. The DEIS frankly admits that no geotechnical studies have been completed yet for the project. DEIS at 2-40, 4-3 ("Each WTG foundation footprint located in competent rock would be much less because the foundation would consist of an excavation into the rock; the depth and circumference of each rock foundation excavation would depend on site-specific geotechnical conditions."), 4-10.

The DEIS covers water resources in Section 3.3. Water resources topics include Watershed Boundaries, drainage basins, flood plains, and surface and ground water. In recognition that there are no surface water resources at the site, the DEIS focuses on ground water resources. Among the defects in the DEIS that BLM must correct are:

The DEIS author in section 3.3.2.3 (Surface water) covers alluvial material. Alluvial material consisting of weathered rock, gravel and sand is the primary material for both storage and flow of subsurface water resources.

- Alluvial material is weathered and eroded rock from the surrounding mountain ranges. This material consists of weathered, decomposed rock which results in the development of desert soils. These soils consist of rock fragments, gravel, sand, and clay.
    - Void spaces within alluvial material are the primary storage for ground water resources in this desert region.
    - The desert plant community in the Piute Valley is unique. This valley is a transition zone of the Great Basin Desert, the Mojave Desert, and the Sonora desert. Plant communities from all three deserts are represented in the Piute Valley
- The DEIS fail to identify the thickness of the alluvial material.
    - Alluvial material thickness varies throughout the area.
    - Alluvial material around the town of Searchlight and the surrounding mining district consists of a thin layer.
    - Alluvial materials south of Searchlight near the town of Cal-Nev-Ari, Nevada, are much thicker. Material eroding from the McCullough Mountains has produced a thick alluvial material.
    - The area surrounding Cal-Nev-Ari has no exposures of bedrock protruding through the alluvial material.
- Subsurface water flow and storage will vary based on alluvial material present
    - It is apparent that little to no actual field work was conducted to survey actual alluvial material within each watershed basin.
    - Surface exposures of crystalline rocks throughout the watershed basins are indications of thin alluvial material and a shallow subsurface aquifer. The alluvial material is only one (1) to three (3) feet thick in and around Searchlight.
    - Exposures of mineralized plutonic crystalline quartz rich rocks are the primary ore bodies of the Searchlight Mining District.
    - Alluvial material around Searchlight is a thin veneer covering portions of the crystalline bedrock.

Comment noted.

The existing Geological environment was presented in EIS Section 3.1-Geology, Soils, and Minerals, and impacts in Section 4.1-Geology, Soils, and Minerals. Geotechnical testing will be conducted at each WTG location prior to construction.

- Alluvial material is the principal material for shallow aquifer storage and flow of subsurface water.
- Crystalline granitic rocks around Searchlight are mineralized and well exposed around the town of Searchlight.
- These crystalline granitic rocks have little permeability (water transport) or porosity (water storage) potential.
- This geologic setting has resulted in shallow water aquifers. The shallow aquifer used to sustain plant life in the area is near surface one (1) to four (4) feet deep. Subsurface water flow through the thin alluvial apron, which lies on top of the crystalline bedrock. Very little water will penetrate below the alluvial to the crystalline granitic and quartz rich rocks.
- Alluvial material is the primary source of water for the desert vegetation during warm and dry periods in the Mojave Desert
- Subsurface water in alluvial material is the primary water source for plants such as Yucca and Joshua trees. Disruption of near surface water flow will impact water resources to vegetation. These trees and other succulent plants rely on shallow water resources for both the stabilization and reproduction. These indirect effects of construction on vegetation are not sufficiently disclosed and evaluated in the DEIS.

- Road construction will cut through the alluvial material disrupting the sub surface water flow. The shallow depth of bedrock will affect how and where construction can occur and how and where facilities can be placed on the site.
  - Road construction and foundations for wind turbines will require blasting to break up the hard granitic crystalline rocks.
  - This blasting will require removal of the upper alluvial material, disrupting ground water flow, and requiring water resources for dust mitigation.
  - The mining in and around the Searchlight mineral district is hard rock mining due to granitic crystalline rocks.
  - Deep water storage is in a fractured matrix of non porous crystalline rocks.
- The north and east portions of the project site have very irregular topography, which is not illustrated in any map in the DEIS but is shown in the map from VTN dated 11-10-2009. This will make construction more difficult and ensure that blasting will be necessary,

Well data indicate that groundwater in the project area is variable but ranges from 170 to about 270 feet (Section 3.3.2.4-Groundwater Resources). Construction excavation for the WTGs would range from ten to thirty feet deep (DEIS Section 2.3.2-Construction, subheading WTG Pads and Foundations). Therefore, it is very unlikely that near surface flows would be impacted.

During construction Searchlight Wind Energy, LLC would be required to use an approved dust palliative (such as water) to lesson blowing soil. After construction is complete disturbed areas would be revegetated to the extent possible.

Figure 2.1-1. 96 WTG Layout Alternative and Figure 2.1-2. 87 WTG Layout Alternative has been updated to illustrate topography. Section 2.3.2-Construction under Road Construction has been updated disclosed that blasting may be required. It cannot be determined to what extent blasting would be required until the ground geotechnical testing has been completed.

particularly taking into account the relatively flat grades that would be necessary to allow for safe passage of long loads. The DEIS does not discuss this issue.

- The area where the Southwest gas pipeline passes through the northern portion of the project site is very rocky and irregular, and the pipeline is located at a very shallow depth in this area. Please specifically describe the geology along the pipeline route to evaluate whether *any* construction can safely be done near this pipeline.

- The DEIS discusses (at page 4-3) that the blade throw safety set-back for each WTG of 886 feet, or an area of approximately 57 acres. The total acres of the project site actually affected simply for safety set-backs would be 4,959 acres, or 7.75 square miles. Why would BLM consider granting a ROW for an industrial facility with this many known hazards, hazards which also tie up far more land in perpetuity than stated in the DEIS?

- Water Flow Models and the hydrology of the Eldorado, Colorado and Piute drainage basins focus on two points.
    - Ground water flow estimates based on a 1966 study by Rush and Huxel.
        - This study is used to build a case for an increase in the water resources in the project area, justifying the withdraw of large amounts of water for construction.
    - Nevada State Water Engineer Report
        - The Eldorado Valley has potential groundwater resources of 2,390 acre-feet/year, which is more than four times the estimated perennial yield of 500 acre-feet per year (Rush and Huxel, 1966).
        - The Piute Valley has potential groundwater resources of 5,039 acre-feet/year, which is over 16 times the estimated perennial yield of 300 acre-feet/year (Rush and Huxel, 1966).
        - The Colorado River Valley has committed groundwater resources of 4,547 acre-feet/year, which is over 22 times its estimated perennial yield of 200 acre-feet/year (Rush and Huxel, 1966).

- The DEIS report attempts to justify the use of ground water based on the differences of water flows in the Rush and Huxel, 1966 paper and the report from the Nevada State Water Engineer Report.
    - The "Nevada State Water Engineer Report" presents more questions than answers, which BLM must answer, disclose and evaluate to the public:

Southwest Gas Corporation holds a ROW grant from BLM for an existing gas line within the project area. The grant is non-exclusive; therefore, the BLM reserves the right to authorize other actions within a ROW area for compatible uses. The Applicant will be required to coordinate with Southwest Gas should there be any pipeline crossings, e.g., roads, underground electrical collection systems, etc. The result of the coordination would be a legally binding agreement that such crossings would meet Southwest Gas-provided standards for engineering and applicable material requirements to ensure the safe and continued operation of the gas line.

Each turbine has a setback recommended by the manufacturer, which ranges from 866 to 1,050 feet as a function of rotor diameter. No turbines are located within the setback from any building or road, other than the spur road to each turbine used for construction and maintenance.

BLM considers publications of the State Engineer to provide reliable information from a credible source regarding Nevada water resources. The commenter would appropriately, direct questions about their methods to them. Since no new wells are planned for this project and no new water rights will be appropriated, the commenter's questions are irrelevant, since water rights holders, SWS, LVVWD, or anybody else who will be supplying that water cannot exceed its duty.

- What was the method used in determining ground water flow rates?
- How many well withdraws were used in pump test?
- What was the duration of each test?
- Where are the locations of well test?
- What was the recharge interval for each well?
- What (if any) is the criteria used in sub divisions of the three basins with respect to water depth, and shallow and deep water resources?
- Are all three (3) drainage basins (Eldorado, Piute, and Colorado River Valley) equal with respect to subsurface hydrology?
- Are water resource estimates based on well locations throughout the area, and does the study include areas of varying alluvial material.
- What is the variation in water flow in areas of crystalline rock such as Searchlight and thicker alluvial near Cal-Nev-Ari.
- Does the subsurface hydrology of Searchlight and the Surrounding mining district match the subsurface hydrology of the surrounding areas?
- There is considerable variation of rock types ranging from volcanic tuffs, rhyolites and plutonic granites that the subsurface hydrology will vary according to rock type.

To accurately depict the environment on the project site, and inform the public and the decision maker about the geological baseline. This baseline is essential to be able to understand how the project would have to be constructed, what natural limitations there will be on where and how facilities can be placed, and to understanding the likely impacts of activities on the project site. To provide this baseline information, BLM must conduct detailed mapping of the project area to determine the depth of alluvial material, exposures of granitic crystalline rock and water basins. Subsurface water within the Searchlight Township and mining district are not the same as those in the Eldorado Basin and southwest Piute Basin. Alluvial material the major source of ground water varies with short distances of less than four (4) miles.

The DEIS presents only a very basic summary of the geology and hydrogeology. The study of groundwater, and basin analysis used existing standard USGS maps to draw surface water contributions and implied that these boundaries represent accurate subsurface water. The flaw in the study is varying geology with respect to plutonic crystalline rocks and alluvial material. Water resource estimates cannot be accurately assessed on simple topography obtained from USGS maps. Ground water withdrawals in the southwestern part of the Piute valley will not

The existing Geological environment was presented in EIS Section 3.1-Geology, Soils, and Minerals, and impacts in Section 4.1-Geology, Soils, and Minerals Impacts. Geotechnical testing will be conducted at each WTG location prior to construction.

Well data indicate that water in the project area is variable but ranges from 170 to about 270 feet (Section 3.3.2.4-Groundwater Resources). Construction excavation for the WTGs would range from ten to thirty feet deep (Section 2.3.2-Construction, subheading WTG Pads and Foundations). Therefore, it is very unlikely that near surface flows would be impacted.

have the same impact as ground water withdrawal from Searchlight. Disruption of near surface water flow around the town of Searchlight will impact a shallow aquifer. Disruption of near surface aquifers has far greater impacts to water resources. Shallow subsurface water is the primary source for vegetation such as the Joshua tree. These trees and other succulent plants rely on shallow water resources for both the stabilization and reproduction of desert communities. A detailed analysis of water resources is important and necessary in order to prevent biological destruction of the area.

M. The DEIS fails to adequately evaluate effects on air quality and climate.

In its discussion of air quality impacts, DEIS at 3-37, BLM fails to disclose that the town of Searchlight has a high percentage of "sensitive populations," elderly people with existing health issues. Approximately 31% of the population is over 65 years of age, while over 35% more are between 45 and 64 as of the 2000 census, and these percentages are likely higher now and should be disclosed along with accurate current demographic information. Also, how will the applicant prevent the air quality at Lake Mead NRA from being compromised by the dust that will result from destroying the desert vegetation and creating 36 miles of unpaved roads, and the very large areas stripped for fire breaks?

The DEIS does not provide sufficient information about the likely negative effects of the project on air quality in the area, particularly with respect to dust. The DEIS acknowledges that "[t]he soils in the Searchlight area are susceptible to erosion by wind and water." DEIS at 3-5. Wind erosion will be a problem for the life of the project, and beyond, not just during construction. The area is prone to blowing dust already. Once the amount of destruction of desert vegetation and the natural crust of the soil surface necessary for the proposed project has taken place, the area will likely be a dust bowl.

Cryptobiotic soil crusts are an essential ecological component in arid lands. They are the "glue" that holds surface soil particles together precluding erosion, provide "safe sites" for seed germination, trap and slowly release soil moisture, and provide carbon dioxide uptake through photosynthesis.[20] The DEIS states that the project area in Clark County is designated as a management area for fine particulates (PM_{10}) but implies also that it is considered "attainment/unclassifiable area" for PM_{10} emissions. DEIS at 3-39. However, the Mojave Desert Air Quality Management District in California has found that this same area is already in non-attainment for PM_{10} particulates. The construction of the proposed project would further increase emissions of these types of particles because of the disruption and elimination of potentially thousands of acres of cryptobiotic soil crusts.

[20] Belnap, J., S. L. Phillips, J. E. Herrick, J. R. Johansen. 2007. Wind erodibility of soils at Fort Irwin, California (Mojave Desert), USA, before and after trampling disturbance: Implications for land management. Earth Surface Processes and Landforms 32(1):75-84; *see also* Belnap, J. *et al.*, Biological Soil Crusts—Ecology and Management (2001) on enclosed CD-ROM

The project emissions will not exceed the NAAQS and Clark County DAQ air quality standards described in Section 4.6- Air Quality Impacts.

Refer to APM-3 - the applicant would use water to control dust to comply with Clark County DAQ dust control requirements (APM-3). Additional mitigation measures are discussed in Section 4.6- Air Quality Impacts.

Less than 2 percent of the project area (382-410 acres) would be disturbed (either temporarily or permanently) as a result of the proposed project; this is a negligible amount of disturbance in relation to the project area (18,949 acres). No current data exists to support that the loss of such a small amount of soil crust relative to available crust would create a measurable change in CO2 volumes in the atmosphere. Furthermore, the Governor of the State of NV has delegated the authority to Clark County DAQ as the compliance oversight for Clean Air in the project area. Clark County has full jurisdiction of the project area, which has been determined to be in attainment/unclassifiable for PM10 emissions.

The DEIS does not describe the on-site cryptobiotic soil crusts. The proposed project will disturb an unidentified portion of these soil crusts and cause them to lose their capacity to stabilize soils and trap soil moisture. The DEIS fails to provide a map of the soil crusts over the project site, and to present any avoidance or minimization measures. It is unclear how many acres of cryptobiotics soils will be affected by the project. A supplemental DEIS must be prepared which identifies the extent of the cryptobiotic soils on site and analyze the potential impacts to these diminutive, but essential desert ecosystem components as a result of this project.

The DEIS's discussion of climate change effects is also inadequate because it provides insufficient information to meaningfully understand the effect of this project on the emission and capture of greenhouse gases. For example, how much carbon dioxide and other greenhouse gas emissions would be offset by construction of the turbines? Would there be *any* offset, if—for example—the additional electricity generated simply led to an increased use of electricity, such that the construction of renewable energy facilities would not remove any generation of carbon dioxide and other greenhouse gases from the electrical production infrastructure? Will there be negative effects on climate change from construction and operation of the project? For example, how much of the greenhouse gas sulfur hexafloride will be released by new transmission? How will the loss of the carbon absorption associated with cryptobiotic soils and vegetation that will be removed

N. The DEIS fails to adequately evaluate effects on transportation.

The DEIS's discussion of transportation is cursory and inadequate. As with most other impacts, the DEIS notes that a Traffic Management Plan will be developed at some future point. However, this means that there is no opportunity for the public to comment meaningfully on what the "plan" is to mitigate the transportation impacts of the project. A Traffic Management Plan needs to be finished and circulated again for public comment so that local residents can give public input to how truck traffic will impact their local roads, and how tourism will be affected. What is the alternate construction route to Cottonwood Cove Road? Photographs should be taken of road conditions before construction and after to document any damage for the applicant to repair.

The DEIS does not recognize the primary users of the dirt roads northeast of Searchlight. DEIS at 3-43. There are at least five full-time residences, with an estimated 10 to 12 people, who use Oregon Trail Road as their ONLY access to their homes. The DEIS indicates that Oregon Trail Road from US 95 east to Gas Line Road will be used as a major access point for construction of the northeast portion of the project. What provisions will be made to allow these people, who have lived there for 10 to 20 years or more, to have unimpeded access and egress to and from their homes? One family has elementary-age school children; several of the residents work full time. Others are elderly and may need emergency services. Will they be able to get out to US 95 without being held up by construction equipment and traffic for twelve months?

The DEIS does not mention that one of the roads that is routinely maintained is Southwest Gas Company's Gas Line Road. It is used by ORVs, and is in fair condition. However, as detailed earlier, this route, if used by heavy equipment, has a potential for disaster.

The purpose and need for the project is not to offset greenhouse gas emissions. Section 4.6-Air Quality Impacts includes an analysis of air quality and greenhouse gas emissions. No current data exists to support that the loss of such a small amount of soil crust relative to available crust would create a measurable change in CO2 volumes in the atmosphere. Currently there is no technically defensible methodology for predicting potential climate changes from GHG emissions. However, there are, and will continue to be, several efforts to address GHG emissions from federal activities, including BLM authorized uses. Furthermore, this proposed action does not meet the emission level or production capacity for reporting and is not subject to mandatory reporting rules found in General Provisions (40 CFR 98).

The Traffic Management Plan would be prepared by the party responsible for implementing it; namely the construction contractor. As safety is involved, this plan would not reviewed by the general public as the Director of the Nevada Department of Transportation holds responsibility for review. Construction could not legally commence prior to the NDOT approval. Refer to MM TRAN-1 for a discussion of the elements that would be included in the plan. In addition, NDOT typically requires written notification be provided to emergency services (fire, police, ambulance, etc.) at least 24 hours in advance of traffic detours and at least 48 hours prior to the commencement of construction activities.

MM-TRAN-2, Repair Damaged Streets, would specifically require documentation of pre-construction road conditions and post-construction repair standards.

The gas pipeline is within 1000 feet of the residences mentioned in the previous paragraph. BLM must disclose this information and explain how it intends to prevent potentially deadly impacts from such use.

The DEIS states "Unauthorized use of motorized vehicles has damaged resources within the project area by crushing vegetation, disturbing wildlife, increasing noise and airborne particulates, and increasing erosion potential." DEIS at 3-43. These impacts are miniscule compared to the construction of 37 miles of new 36-foot wide roads, 87 turbines, and all of the other infrastructure mentioned. It is incomprehensible that BLM considers the very minimal incidental damage done by ORV's a problem, yet would consider turning the entire 30 square miles (18,949 acres) into an industrial zone for the next 30 to 50 years.

In the discussion of transportation impact indicators, DEIS at 4-51, the first four of the five bullet points are a given; the project would absolutely increase traffic, degrade the roads, prevent adequate emergency access, and cause loss of access to private land parcels. In addition, since each turbine has a safety set-back of 886 feet, access to recreation access points would be affected.

With 300,000 visitors annually to Cottonwood Cove in the Lake Mead NRA, on a road that is narrow and steep, adding construction traffic into the mix is a recipe for disaster. Should there be a necessity for emergency services at the Lake (a common occurrence in the summertime), there could be life-threatening delays in response time.

During the construction period those people who use Oregon Trail Road would encounter great difficulty just coming and going from their homes. Everyday activities (going to work, taking children to school, going to appointments) would become a hassle and a safety hazard.

At page 4-52, the DEIS states that "When construction is completed, access for motorized travel might increase due to the construction of 29 miles of new roads." But with each turbine having an 886 foot safety set-back due to potential for blade throw, just where will the public be allowed to drive? The roads are closer than 886 feet to each turbine. Furthermore, where would anyone WANT to drive, once the turbines are operational. Unless each turbine is set back more than 886 feet from the main roads within the project, there will be no public access. How will BLM and Duke insure that people do not get closer than the 886 feet? Will 47 acres of affected area encircling each turbine be fenced to prevent anyone from getting too close? Will there be gates on the project roads?

The DEIS states at page 4-52 that "Given the number of vehicle trips during the construction period, along with the movement of heavy construction equipment, it is reasonable to anticipate that the Proposed Action might damage pubic roads through increased use." The word "might" should be changed to "will." There is no doubt that the volume of heavy construction equipment will cause severe damage to existing roadways. However, the DEIS is incorrect to say that "Construction of the Proposed Action would have a beneficial effect on road conditions because it would result in restoration of a county road to its preconstruction conditions for both the base and the surface." DEIS at 4-52.

The commenter is incorrect in the assertion that 18,949 acres would be disturbed. The project area is 18,949 acres. Table 2.5-2. Approximate Acreages that would be Affected by Development of Action Alternatives, of the DEIS presents the disturbance associated with the build alternatives ranges from 230-249 acres of temporary disturbance, and 152-160 acres of permanent disturbance.

The setback is in conformance with BLM Instructional Memorandum 2009-043, which states that no turbine on public land will be positioned closer than 1.5 times the total height of the wind turbine (approximately 640 feet) to the right-of-way boundary. No turbines are located within the setback from any building or primary road, other than the spur road to each turbine used for construction and maintenance, or two-track and casual-use roads.

No permanent fencing of the turbines or access roads is proposed because of the additional disturbance and resulting habitat fragmentation.

Refer to Section 4.7-Transportation Impacts, which has been updated to address this comment.

The "*preconstruction* condition" of these roads is not optimal. Saying that post-construction "mitigation" will take a road back to preconstruction condition is like saying it would be beneficial to you that after your ten-year old car is totaled, you'll get the car back after 8 to 12 months in the body shop, complete with the same dings it had before it was wrecked and repaired. On the same page, the DEIS states that "Overweight and oversized loads could cause short-term disruptions to local traffic." BLM should be honest and change "could" to "will." Specifically, oversized loads going east on Cottonwood Cove Road will shut down all other traffic. The road is 24 feet wide, and is the only access route to Cottonwood Cove on Lake Mohave.

Refer to MM TRAN-2- Repair Damaged Streets, which provides that the roads would be returned to their preexisting condition. A Traffic Management Plan (MM-TRAN-1) will address effects on local traffic. The Plan would include the following element: To minimize the effects on local and Lake Mead traffic the Transportation Plan will mandate the use of flagmen or escort vehicles to control and direct traffic flow, and provide schedules that show roadway work will be done during periods of minimum traffic flow. The Traffic Management Plan would be a stipulation of the ROW Grant.

On page 4-53, the DEIS states that "Future roadway improvements in and around Searchlight could reduce potential traffic delays, improve traffic flow, and increase access for motorized travel." This is not only speculative, but its premise is inaccurate and should be corrected. If the roadways around Searchlight are improved, they still don't lead anywhere. All the new roads proposed as part of the project dead-end in the middle of nowhere. It is difficult to comprehend how this is considered beneficial.

This sentence has been removed from the EIS.

BLM also should disclose and evaluate the likely damage to roads from the sheer weight of the turbine-carrying trucks and other construction equipment, and require as a mandatory condition of any ROW grant that Duke enter into an agreement with the Nevada Department of Transportation, supported by a bond, to repair damage to the Cottonwood Cove Road and US 95 from activities associated with the project. *See* Exhibit 8.

O. The DEIS presents confusing and inaccurate information about land use.

The DEIS discloses incorrect information about land use and presents an incomplete analysis. For example, the DEIS states there, among other uses, ". . . limited livestock grazing, . . ." DEIS at 3-44. All cattle, burros and wild horses were removed from this area many years ago. With respect to the land ownership, what compensation will be given to the private owners of the small parcels totaling approximately 644 acres? *Id.* These people bought their land with the understanding they would be able to have the quiet enjoyment of their property in a remote, unspoiled area. Others bought with the intention of building homes in the future, or perhaps to speculate on the land. The land in proximity to the turbines will now be seriously devalued. If Duke argues that value will not be affected by the presence of the turbines, then the company should be willing to buy out these land owners at today's prices.

Section 3.8.2-Existing Environment has been modified to delete reference to livestock grazing.

The DEIS states the project is located in an area under the jurisdiction of the 1998 Las Vegas RMP and ROD (BLM 1998), as amended by the 2005 Wind Energy Development document. DEIS 3-45. The 1998 RMP is currently under revision; the DEIS for the revised RMP is supposed to be available this Fall. Is this statement still true? Which RMP will govern? Will there be any amendments to the RMP that address the project or the lands it affects?

The Las Vegas RMP, approved October 5 1998 is the governing document for this project, along with any other approved planning or programmatic document covering this field office or project type. The revised (Las Vegas) RMP Record of Decision is not anticipated until the summer of 2014.

On page 3-48, the acreage for Duke's rights of way listed differs from that stated elsewhere in the DEIS. This table states 24,382.56 acres; elsewhere the project is described as

The correct acreage for the proposed project area is 18,949 acres of BLM-managed lands. The total from Table 3.8-2. ROWs within or adjacent to the Proposed Project Area is from a database that has not been corrected to reflect the actual ROW.

18,949 acres. Which is correct? Has applicant gotten permission from Southwest Gas to build a road on/adjacent to the high pressure gas pipelines? DEIS at 3-48. As stated earlier, building roads and transporting heavy construction equipment over a shallow buried high-pressure gas pipeline will present a major safety hazard, as will excavation for underground collection lines.

The DEIS presents inaccurate information about the effects on private property of the development project, stating that "the 5.5% of the project area that includes privately owned parcels would not be affected by the construction, O&M, or decommissioning of the Proposed Project, as it has been sited to specifically avoid privately owned parcels." DEIS 4-56. This ignores not only the effect on property values within the project site, but also the effect on private property values in the surrounding area that is affected by the visual and noise impacts from the project, which can extend for miles from the industrial wind facility. Studies elsewhere have shown that property values near wind turbines drop up to 30% to 40%. Exhibits 31 and 32. How the DEIS can state that these parcels would not be affected defies believability. Applicant should be required to purchase all private property, both residential and open land, within two miles of the project area at current market value (that is, pre-wind turbine value). Regarding future roadway improvements, the DEIS states again that the project will increase access for motorized traffic. DEIS at 4-58. By whom and to where? Whose destination would be a lovely day having a picnic at a site 886 feet from an operating wind turbine?

P. The DEIS fails to give adequate consideration to cumulative effects.

The consideration of cumulative effects in the DEIS is inadequate. In its EIS, an agency must also consider the proposed action along with other actions, "which when viewed with other proposed actions have cumulatively significant impacts." 40 C.F.R. § 1508.25(a)(2). A cumulative impact is defined as "the impact on the environment which results from the incremental impact of the actions when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such actions." 40 C.F.R. § 1508.7. Under NEPA, cumulative impacts include direct as well as indirect effects, "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable." 40 C.F.R. § 1508.8(a).

In analyzing the cumulative effects of a proposed action, an agency must do more than just catalogue "relevant past projects in the area." *City of Carmel-by-the-Sea*, 123 F.3d at 1160. The EIS "must also include a 'useful analysis of the cumulative impacts of past, present and future projects.'" *Id.* This means a discussion and an analysis in sufficient detail to be "useful to a decisionmaker in deciding whether, or how, to alter the program to lessen cumulative impacts." *Id.* The cumulative impacts analysis for a proposed project must examine past, present, and proposed/reasonably foreseeable actions that have cumulatively significant impacts or are similar in timing or geography. 40 C.F.R. §§ 1508.7, 1508.25, 1508.27(b)(7); *Tomac v. Norton*, 433 F.3d 852, 864 (D.C. Cir. 2006). Agencies may not avoid NEPA compliance by excessively segmenting projects into smaller parts. Instead, they must consider "connected actions" and "cumulative actions" within the same analysis. 40 C.F.R. § 1508.25. Actions are "connected" if they cannot or will not proceed unless other actions are taken previously or simultaneously, or are interdependent parts of a large action and depend on the larger action for their justification.

Southwest Gas Corporation holds a ROW grant from BLM for an existing gas line within the project area. BLM ROW grants are non-exclusive. BLM Reserves the right to grant other actions within a ROW area. Searchlight Wind Energy LLC would be required to coordinate its construction and operational activities with existing adjacent ROW holders to facilitate their continued safe operations.

The updated Socio analysis presented in Section 4.12-Socioeconomic Impacts, indicates there would be no effect on property values. Refer to Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines for a more information.

Section 4.17.5-Potential Cumulative Impacts describes the consideration of indirect and direct cumulative effects in situations where relevant information is either incomplete or unavailable.

The EIS identifies two potential wind energy projects (e.g. Castle Mountain Searchlight Project and Piute-Eldordo Valley Energy), one solar project (Searchlight Solar Project),and the Mead-Searchlight 230-kV Transmission Line as projects with potential cumulative impacts to the Project. Table 4.20-1-Cummulative Effects Summary, contains a summary of the potential cumulative effects of the 87 WTG Alternative and the 96 WTG Alternative when considered with other reasonably foreseeable projects The EIS contains a "useful analysis of an analysis of the cumulative impacts of past, present and future projects." City of Carmel-by-the-Sea v. U.S. DOT, 123 F.2d 1142, 1160 (9th Cir. 1997).

The analysis of the cumulative impacts of the four other potential projects is an analysis of all past, present, and reasonably foreseeable actions. Tomac v. Norton, 433 F.3d 852, 864 (D.C. Cir. 2006). The cumulative impacts analysis in the EIS has been updated and identifies: (1) the area in which the effects of the proposed project will be felt; (2) the impacts that are expected in the from the proposed project; (3) other actions - past, present, and proposed, and reasonably foreseeable - that have had or are expected to have impacts in the same area; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected if the individual impacts are allowed to accumulate". Id. The Project is not segmented, but rather, is analyzed in its entirety in the DEIS.

40 C.F.R. § 1508.25(a)(1). Cumulative actions are those "which when viewed with other proposed actions have cumulatively significant impacts." 40 C.F.R. § 1508.25(a)(2).

Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 C.F.R. § 1508.7. "To consider cumulative effects, some quantified or detailed information is required. Without such information, neither the courts nor the public, in reviewing [an action agency's] decisions, can be assured that the [agency] provided the hard look that it is required to provide." *Neighbors of Cuddy Mountain v. U.S. Forest Serv.*, 137 F.3d 1372, 1379 (9th Cir. 1998). The cumulative effects of the proposed action, combined with the cumulative effects of other proposed actions, must be described in detail. *Muckleshoot Indian Tribe*, 177 F.3d at 810. Broad and general statements "devoid of specific, reasoned conclusions" are not sufficient; neither are one-sided cumulative impact statements. *Id.* at 811. NEPA requires informed decisionmaking—and BLM has not undertaken any meaningful analysis of the cumulative effects to desert tortoise populations, other avian species, other wildlife, scenic resouces and other resources in conjunction with existing, pending, or planned projects and actions that also may impact these resources—for example, other energy projects currently under development or planned in desert tortoise habitat or the industrialization of the unspoiled landscapes of the southwestern deserts.

The DEIS's discussion of cumulative effects is inadequate in a variety of ways. It improperly restricts the spatial scale for the consideration of its effects. DEIS at 4-129. The chosen "project area and an immediately adjacent buffer sized 25% larger than the project area" ignores that the project has impacts on a desert tortoise species which is in decline and under pressure from energy development throughout its range. At an absolute minimum, given the serious impacts to this species, the DEIS should evaluate the Eastern Mojave Recovery Unit as the relevant cumulative impacts area. The rationale provided for selecting a smaller area is arbitrary and designed to avoid BLM's duty under NEPA.

Consequently, the DEIS fails to evaluate adequately the cumulative effects of the project site and transmission lines on the surrounding ACEC, and particularly on the desert tortoise for which the ACEC has been designated as critical habitat. The DEIS fails to provide any concrete analysis of cumulative impacts, instead providing largely generic descriptions devoid of any cumulative impact analysis specific to the proposed project. For example, the DEIS fails, for example, to study cumulative impacts to desert tortoise and their habitat with respect to impacts from energy development, habitat fragmentation, irretrievable loss of finite availability of land with unindustrialized viewsheds, and so forth, on a landscape level. As described above, the DEIS includes no adequate discussion about direct and indirect impacts to desert tortoise, bighorn sheep, and bald and golden eagles and other avian and sensitive species and their habitat—let alone an analysis of cumulative impact. Thus, there is no discussion of the direct impacts of the project on tortoise and other species and nor of how tortoise populations are doing in the immediate surrounding areas. There is no discussion of how other agency actions within BLM's jurisdiction, including permitting of utility-scale energy generation and transmission projects, cumulatively impact the resources affected by this generation and transmission project.

Furthermore, the DEIS cannot rely on mere cursory descriptions of past actions to satisfy

Table 4.17-1. Cumulative Effects Summary contains quantified and detailed information on the potential cumulative impacts of the four identified reasonably foreseeable future projects. The analysis contains details regarding air quality and climate, noise, geology and minerals, soils, water resources, biological resources, cultural resources, paleontological resources, land use, recreation, visual resources, transportation, hazardous materials, social and economic conditions and environmental justice. Table 4.17-1. Cumulative Effects Summary contains specific, detailed information and conclusions regarding each of these resources. It also contains a discussion of the cumulative impact on the tortoise population and bird and bat populations and visual resources.

The geographical boundaries should not be extended to the point that the analysis becomes unwieldy and useless for decision-making. In many cases, the analysis should use an ecological region boundary that focuses on the natural units that constitute the resources of concern.

The USFWS has evaluated the project effect on desert tortoise population in the Biological Opinion (Appendix B-2: USFWS Biological Opinion).

The proposed project area is not currently designated as an ACEC. Areas immediately surrounding the project area plus a 25% buffer were evaluated in Section 4.17-Cumulative Impacts Analysis. The ACEC is discussed in Section 1.4.1-Public Scoping Process, Section 4.8-Land Use Impacts, and Section 4.10-Noise Impacts.

its responsibilities under NEPA. DEIS at 4-130 to 4-132. This represents a lack of an honest cumulative impact analysis in this DEIS. Combined with the other deficiencies identified in these comments, including the inadequate set of "alternatives" identified, suggests that the DEIS's cumulative impacts analysis, may be a *pro-forma* exercise designed to justify a previously-made decision. This is impermissible under NEPA. *See, e.g., IlioUlaokalani Coalition v. Rumsfeld*, 464 F.3d 1083, 1101–02 (9th Cir. 2006). Courts have made clear that the presentation of information on present effects of past actions must be "quantified and detailed." *Or. Natural Res. Council v. BLM*, 470 F.3d 818, 822 (9th Cir. 2006). Failure to quantify or detail the degree to which each factor is currently being impacted by past actions violates NEPA. *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995 (9th Cir. 2004). Similarly, providing only "general statements about possible effects and some risk" is insufficient to constitute the "hard look" required by NEPA. *Id.*

The cumulative impacts regulation unambiguously provides that the agency must consider all "other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions," including actions that are "individually minor." 40 C.F.R. § 1508.7. In many instances, particularly with respect to impacts to desert tortoise and golden eagles and other avian species, the DEIS states that information simply is not available or that quantification of impacts is impossible. The courts clearly have required that an agency provide a justification in its environmental analysis for why more definitive information cannot be provided. *See Neighbors of Cuddy Mountain*, 137 F.3d at 1379-80. It is BLM's obligation to collect this information, evaluate it, and present it for public review and comment.

In addition to presenting insufficient evidence of cumulative effects, the DEIS makes false statements about the unavoidable adverse impacts and irreversible and irretrievable commitments of resources. For example, BLM states, with respect to impacts to visual resources, that, because the project is expected to be decommissioned, "visual impacts would disappear." DEIS at 4-125. This is false, because the DEIS recognized on the previous page that there will remain longer-term effects of removal of vegetation which will may not grow back, leaving residual visual effects. But it is also false because, if the life of the project is at least 30 years (DEIS at 4-41), but could be extended to 50 years or more (DEIS at 4-104), the visual resources are essentially gone for 30 to 50 years … that is a lifetime for many people. To say that there is not anticipated to be any irretrievable commitments of recreational resources is false. The resource is lost for at least two generations. This cannot be considered a short-term impact.

BLM's statement is analogous to saying that there is no irreversible and irretrievable commitment of resources from logging because trees will, eventually, grow back. Courts have repeatedly rejected such interpretations the concept of "irreversible and irretrievable commitments of resources." *See, e.g., Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1054 (9th Cir. 1994) ("timber sales constitute *per se* irreversible and irretrievable commitments of resources under § 7(d)").

The BLM is not required to list or analyze the effects of individual past actions unless such information is necessary to describe the cumulative effect of all past actions combined. Under NEPA, agencies retain substantial discretion as to the extent of such inquiry and the appropriate level of explanation. Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 376-77 (1989). "Generally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." CEQ Guidance on the Consideration of Past Actions in Cumulative Effects Analysis, June 24, 2005.

Section 4.17.5-Potential Cumulative Impacts evaluates the cumulative impacts of both the current setting, which includes past projects as well as all reasonably foreseeable future actions. In addition, past projects with a potentially cumulative impact to the proposed project are encompassed in the entire document, in particular, Chapter 3-Affected Environment, which discusses in detail the "Affected Environment."

NEPA regulations require that cumulative impacts be "considered" (Neighbors of Cuddy Mountain vs. USFS, 137 F.3d 1372, 1379 (9th Cir. 1998)). Section 4.17.5-Potential Cumulative Impacts evaluates the cumulative impacts of both the current setting, which includes past projects as well as all reasonably foreseeable future actions, and the impacts to the present setting by past actions are carried through the entire EIS, in particular, Chapter 3-Affected Environment. The cumulative impacts analysis need not consider the impacts of past or reasonably foreseeable development that is unrelated to the impacts of the proposed action (Don't Ruin Our Park v. Stone, 802 F. Supp. 1239 (M.D. Pa. 1992))).

NEPA Section 101 2(c)(iv) requires a detailed statement on any irreversible and irretrievable commitments of resources that would be involved in the proposed action should it be implemented. The "commitment of resources" refers primarily to the use of nonrenewable resources such as fossil fuels, water, labor, and electricity. A commitment of resources is "irreversible" when its impacts limit the future option for a resource and an "irretrievable" commitment refers to the use or consumption of resources that is neither renewable nor recoverable for later use by future generations. The long term impacts to resources resulting from the proposed project will be both renewable and recoverable for use by future generations at the termination of the proposed project.

Irreversible and irretrievable resource commitments are related to the use of non-renewable resources and the effects that the use of those resources have on future generations. The long term impacts to resources resulting from the proposed project will be both renewable and recoverable for use by future generations at the termination of the proposed project.

1. **The DEIS does not disclose the cumulative effects of the project on desert tortoise.**

The DEIS does not disclose the existence of the May 2011 Recovery Plan for the tortoise and provides no information about what effect the take of (at least) the 122 tortoises discovered during the limited site inventory will have on the species' survival and recovery, either in the Eastern Mojave Recovery Unit or throughout its range. BLM ignores the most recent scientific evidence that demonstrate the existential threat to tortoises from unbridled energy development throughout its range, and ignores the question of whether the extirpation of tortoises from the construction and operation of the Searchlight Wind Project, including from critical habitat surrounding the project site, will—cumulatively with other impacts to tortoise—hasten the extinction of the species. There is no quantification of how many tortoises are likely to be affected, or how that total compares to the local population in the ACEC, or on the population of tortoises in the Eastern Mojave Recovery Unit and elsewhere through their remaining range. There is no explanation of how the amount of adversely-affected habitat compares to the tortoise's remaining habitat. The DEIS offers no justification of why this information cannot be provided in this environmental analysis. *See Neighbors of Cuddy Mountain*, 137 F.3d at 1379-80.

Nowhere in the DEIS is there any information quantifying the impacts of other current and proposed energy development projects on desert tortoise. DEIS at 4-131. The DEIS improperly limits even the narrative, qualitative discussion it provides to a few actions taking place in the immediate vicinity of the project site. This is an improperly narrow definition of the cumulative effects analysis necessary to satisfy NEPA. What are the cumulative effects of habitat loss for tortoises from energy projects and other disruptions to and fragmentations of its habitat? How many tortoises are being displaced in Nevada and surrounding states by other energy projects? How would reasonably foreseeable developments of solar and wind energy on public lands within tortoise habitat affect the regional and local populations? If other past, present and future actions are already having an unacceptable impact on tortoise, what is the incremental effect that displacing a population with higher density that almost any other surveyed population have on the potential of desert tortoises to avoid extinction? BLM must answer all of these questions in a supplemental DEIS because they should have been answered in this DEIS.

Without any quantification or detail of the likely cumulative effects, there is no way for the public to understand the magnitude of the effects predicted—just a laundry-list of effects that might occur. NEPA requires BLM to do more than this. A recurring deficiency in the DEIS is BLM's generic statements about possible effects, of unknown extent, followed by a statement that information is not available. Nowhere in the cumulative effects section does the DEIS explain why more definitive information cannot be provided. This violates NEPA and must be addressed by BLM by gathering the requisite information to make *informed* decisions about the tortoise that would be affected by the project.

BLM's "lack of knowledge does not excuse the preparation of an EIS; rather it requires the [agency] to do the necessary work to obtain it." *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 733 (9th Cir. 2001); *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1213 (9th Cir. 1998) ("'general statements about "possible" effects and "some risk" do not

The BLM's responsibility to address potential cumulative impacts is established in 40 CFR 1502.22(b), which states that "If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include with the environmental impact statement: (1) A statement that such information is incomplete or unavailable. . . " Section 4.17.4-Reasonable Foreseeble Actions has been updated to include the statement that such information is incomplete or unavailable. Accordingly, the discussion of the impacts of those projects is, therefore, adequate.

The geographical boundaries should not be extended to the point that the analysis becomes unwieldy and useless for decision-making. In many cases, the analysis should use an ecological region boundary that focuses on the natural units that constitute the resources of concern.

The USFWS has evaluated the project effect on desert tortoise population in the Biological Opinion (Appendix B-2: USFWS Biological Opinion).

constitute a "hard look" absent a justification regarding why more definitive information could not be provided'") (citing *Neighbors of Cuddy Mountain,* 137 F.3d at 1380). BLM must identify all places where the DEIS refers to unavailable information or insufficient information and "do the necessary work to obtain" this information to form a basis of reasoned decisionmaking on any ROW grants.

This area of southern Nevada has experienced below-normal rainfall levels in the last two years. Please provide information about the current climatic conditions in the project area and evaluate how this will affect the tortoises when combined with the effects of construction and operation of the project.

2. The DEIS fails to quantify the likely cumulative impact of the project on other wildlife, including birds, bats and desert bighorn sheep.

Nowhere in the DEIS is there data quantifying the likely cumulative effect of past, present and future actions involving transmission lines on wildlife. It is well known that wind energy turbines and transmission lines kill birds. For example, in addition to the deadly Altamont site, the USFWS has documented 54 golden eagle kills by industrial-scale wind energy facilities. Exhibit 12 at 1. Yet the DEIS makes no quantitative estimate of the likely adverse impacts to golden eagles, bald eagles, burrowing owls, and other avian species from the construction of the project, when combined with all past, present and reasonably foreseeable future projects affecting golden eagles and other bird species which use the project site, nearby Lake Mohave , or which pass through the Piute Valley along the Pacific Flyway. DEIS at 4-131.Without a quantitative estimate of likely impacts, the cumulative effects analysis violates NEPA.

The DEIS's cumulative impacts analysis of avian species is similarly deficient. DEIS at 4-131. A total of seven species of raptor and 57 species of other birds were recorded on the project site in 2007–2009. DEIS at 3-31. BLM should prepare an independent analysis (in conjunction with the federal expert wildlife agency, USFWS) regarding the baseline populations of birds present or migrating through the project site and disclose this information in a supplement to the DEIS along with information about the impacts of various alternatives on these other bird species. Even if only a few red-tailed hawks or turkey vultures are killed or displaced it is significant from a conservation perspective. The Migratory Bird Treaty Act does not allow for incidental take, and *any* bird kill by wind turbines is a violation of the Act. As windpower projects expand, it is reasonable to expect that the overall number of mortalities will increase significantly—especially if the expansion is done in a manner that fails to consider impacts to wildlife.

Similarly, BLM has an obligation to ensure that activities affecting BLM sensitive species be consistent with management of those species *at the appropriate spatial scale*. BLM Manual 6840.2.C. For bighorn sheep, this means an evaluation of the cumulative impacts on the sheep that range through the Newberry and Eldorado mountains and for whom the project site is an important movement corridor and winter habitat. BLM has failed to provide any cumulative analysis of effects on bighorn sheep at the proper spatial scale. DEIS at 4-131. Nor has BLM provided any cumulative effects analysis on other BLM sensitive species, including bats, Gila

Effects of rainfall were taken into consideration relative to desert tortoise in preparation of the Biological Assessment and the findings were presented in the EIS in Section 3.4.4.2-Existing Environment. The USFWS desert tortoise survey protocol provides survey methodology to determine presence/absence and abundance of desert tortoises for projects. Their model is based on the probability that a desert tortoise is above ground and includes required input relative to the previous winter's rainfall (October through March). The source of weather information was specifically provided by USFWS, namely; http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nv7369.

For a variety of reasons Altamont fatality numbers may be an outlier with regard to golden eagle fatalities at wind energy facilities. In addition to the dense configuration of older-generation turbines, high prey densities and lack of breeding eagles possibly attract sub-adults and floaters to the Altamont, contributing to the high activity and high fatality rates. In addition, the limited amount of repowering that has occurred at Altamont suggests that eagle (and raptor) fatality rates will decline as the older turbines are replaced by fewer, taller, and higher power-rated turbines. Initial results of the repowering suggest that golden eagle fatality rates could decline by more than 80% with complete turbine replacement and comparable power output (Insignia 2009; Smallwood and Karas 2009; ICF 2011).

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The intention is not to predict the number of fatalities due to turbine collision as pre-construction data poorly predicts fatalities for birds (Ferrer et al. 2012), but to determine if any species is at high risk to inform post-construction fatality monitoring.

At the time baseline surveys were completed for the project, Nevada had no official policy or protocols for avian pre-project surveys so protocols were developed between BLM and NDOW. In summary, two years of point count surveys, two seasons of raptor nest surveys, two years of bald eagle winter use surveys, and an aerial survey to assess the use of raptor nests were conducted.

No permitting framework exists that allows a company to protect itself from liability resulting from take at wind facilities; however, the USFWS does not usually take action under the MBTA if good faith efforts have been made to minimize impacts. A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and

Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy).

monster and chuckwalla.

3. The DEIS fails to discuss the cumulative effects of other energy projects and transmission lines.

Refer to Section 4.17-Cumulative Impacts analysis for a discussion of cumulative impacts.

The DEIS also fails to consider the cumulative effects of other energy projects currently being developed in desert tortoise habitat and which would affect other resources, such as golden eagles, impacted by the turbines at the Searchlight Wind Project site and the associated transmission line. The Searchlight Wind Project is not an isolated development projects, but rather part of a concerted BLM effort to reach the goal of producing 10,000 MW of energy from renewable sources on public lands by 2015. This goal is defined explicitly as a "need" for this project. BLM must provide an evaluation of the cumulative effects of this project when combined with all other past, current, and reasonably forseeable future projects that are being developed to meet the 10,000 MW goal, so that the public and the Secretary in deciding whether to approve the ROWs for this project can understand the context of the project in the overall impact of the push to industrialize federal public lands, and whether in that context this project should, or should not be, approved.

The projects identified within the area of cumulative effect were evaluated in Section 4.17.5-Potential Cumulative Impacts.

In southern Nevada alone, BLM currently has approved or pending 31 renewable energy generation and transmission projects, with a total of 5,585 MW of generation capacity project. *See* SNDO Renewable Energy Map, on enclosed CD-ROM and available at http://www.blm.gov/nv/st/en/fo/lvfo/blm_programs/energy/southern_nevada_renewable.html. These projects will have extensive cumulative effects on the residents and tourists in this region, on the wildlife species that live and migrate through there, and on the scenic and spiritual resources there. BLM must evaluate the impacts of these projects together as part of the cumulative effects analysis because the affect the same resources that the Searchlight project would affect.

The geographic boundaries of the cumulative impacts analysis identified in the comment are described in the EIS in Section 4.17.5-Potential Cumulative Impacts. The geographical boundaries should not be extended to the point that the analysis becomes unwieldy and useless for decision-making. In many cases, the analysis should use an ecological region boundary that focuses on the natural units that constitute the resources of concern.

The DEIS's designation of the project site plus a 25% "buffer" as the cumulative impacts evaluation area ("project vicinity") is arbitrary. DEIS at 4-129. Several resources that would be impacted directly by the Searchlight project are also under threat from other energy development projects. For example, the Piute-Eldorado Valley ACEC will be affected visually and by the sound from Searchlight on the south, but also is being affected by development of solar energy near Boulder City on the north edge. The Techren Solar Project, intended to generate 300 MW of power, recently submitted an application to the Public Utilities Commission that would allow construction on 2,200 acres within the Boulder City limits. Exhibit 35 (April 4, 2012 Legal Notice). The Boulder City limit adjoins the ACEC its north side, and the resource for which the ACEC was established—the desert tortoise—will suffer from loss of habitat and habitat connectivity within this critical habitat. BLM must evaluate the foreseeable impact of the Techren Solar Project along with other nearby energy projects that, cumulatively with the Searchlight project, will affect the ACEC and the imperiled tortoise.

Section 4.17.4-Reasonable Foreseeble Actions has been updated to include the Searchlight Solar Project (e.g. American Capital Energy).

Furthermore, BLM has not evaluated at least one renewable energy development project that is reasonably foreseeable to be developed within the 25% "buffer" around the project site. American Capital Energy is planning to construct a 20 MW solar array on a site in close

proximity to the northwestern border of the Searchlight project site. Exhibit 36. In 2009, American Capital Energy entered into a long-term Power Purchase Agreement with Nevada Energy for the power to be generated from the Searchlight Solar Project, which is scheduled for completion in 2012. *See id.* Yet the DEIS does not mention or evaluate this reasonably foreseeable project almost adjacent to the Searchlight Wind project site, and which will have similar impacts to visual and aesthetic resources and desert tortoises. Similarly, the DEIS claims that three wind projects slated for development in the vicinity of the Searchlight project "were considered," but the DEIS cumulative effects analysis table provides no details about what impacts those projects would have on resources—tortoises, golden eagles, visual and scenic resources, cultural and spiritual resources, tourism, and the local communities—that Searchlight Wind also would adversely affect. DEIS at 4-128 to 4-132.

In addition, USFWS's The May 2011 desert tortoise Revised Recovery Plan discloses that over 6,350 MW of renewable power has been permitted or is pending permission on the public lands in desert tortoise habitat. Recovery Plan at 16. According to the Recovery Plan, USFWS has not evaluated the long-term effects of large-scale energy development fragmenting or isolating desert tortoise conservation areas and cutting off gene flow between areas of critical habitat and in high-quality tortoise habitat that is not designated as critical habitat. *Id.* BLM must coordinate with USFWS and produce that information for public review as part of an overall evaluation of the cumulative impact of this project and other renewable energy development projects on the tortoise. There are several nearby solar and wind energy development projects approved and proposed that will impact tortoises, and impacts may be far greater than anticipated at the approval stage. *See, e.g.* Exhibit 9 (describing that 166 tortoises have been removed from the BrightSource project in Ivanpah Valley, despite a pre-construction survey that found only 16 tortoises); *id.* at 5 (map showing solar projects affecting tortoises in the area surrounding the Searchlight project site.

The USFWS has evaluated the project effect on desert tortoise population in the Biological Opinion (Appendix B-2: USFWS Biological Opinion).

In particular, BLM should disclose the ongoing efforts of the agency in cooperation with the State of California to develop and bring federal land use planning into conformance with the Desert Renewable Energy Conservation Program ("DRECP"). On April 4, 2012, BLM announced its intention to prepare an environmental impact statement for amendments to BLM land use plans in California to accommodate the DRECP. 77 Fed. Reg. 20,409 (Apr. 4, 2012). These amendments will be intended to advance state and federal conservation goals in the California desert adjacent to southern Nevada—including protection of the threatened desert tortoise—while identifying "the most appropriate locations" for utility-scale renewable energy resource projects. BLM must evaluate whether it should "call a time out" on approval and development of projects in Nevada while there is a comprehensive planning process currently going on that will more sensibly protect the same resources in the same desert where Searchlight Wind would be built.

Comment noted.

The impacts of this transmission development have dramatically changed landscapes throughout thousands of acres of rural Nevada and adjoining states along with countless scenic vistas. This development is also killing or displacing an unknown number of birds and ongoing damage to cultural resources is occurring from the excessive ground disturbance and road building. The rapid expansion in industrial-scale solar and wind energy has occurred without any

programmatic review of the impacts of the generating sources, the existing transmission system, or the demands for new transmission lines. This has also occurred without an adequate understanding of how much renewable energy development the grid can accommodate and how projects could be prioritized for grid access based on environmental impacts. These significant changes warrant preparation of a comprehensive cumulative impacts analysis. The DEIS must be substantially revised to reflect the project's contributions to the impacts of wind and solar energy development in the Mojave Desert southern California and Nevada as part of a proper cumulative effects analysis.

CONCLUSION

The DEIS barely scratches the surface of the analysis which BLM is legally obligated to perform under NEPA, and provides no information whatsoever about options that BLM is considering for complying with its substantive obligations under FLPMA, the Endangered Species Act, the Bald and Golden Eagle Protection Act, the Migratory Bird Treaty Act, and other statutory, regulatory and policy obligations. It is inadequate to understand, much less evaluate, the likely impacts of the project on desert tortoise, golden eagles, and the residents and tourists who depend on the current character of the surrounding lands which would be changed to their detriment for the foreseeable future.

Comment noted. For compliance details for these issues refer to Section 5.0-Consultation and Coordination, Appendix B-2: USFWS Biological Opinion, and Appendix B-4: Bird and Bat Conservation Strategy.

As a result, the DEIS has failed to take a "hard look" at the issue before BLM, and cannot support any decisions by BLM other than to adopt the "no action" alternative and deny the ROWs requested on public lands the agency administers. The inadequacy of the DEIS, at a minimum, requires the preparation and issuance for public review of a supplemental DEIS addressing the deficiencies in the current document. However, the unacceptable impacts of the project on desert tortoises, golden eagles and other wildlife, the obliteration of scenic and spiritually-significant viewsheds, and the destruction of the current character and economy of the area are evident even from the limited information currently disclosed. As a result, we urge the BLM to adopt the "No Action" alternative (Alternative A) and deny ROWs for this project.

The provisions for preparation of a Supplemental EIS are described in 40 CFR 1502.9, (c) (1) (i), "The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."
Preparation of a Supplemental EIS is not warranted because neither of these conditions apply, the proposed action has not been substantively changed since publication of the DEIS and no significant new information was provided or developed during the public comment period.

Sincerely,

s/ Judy Bundorf
Friends of Searchlight Desert and Mountains
Henderson, Nevada &
Grandpa's Road, Searchlight, Nevada

s/ Kevin Emmerich
s/ Laura Cunningham
Basin and Range Watch
P.O. Box 70, Beatty, Nevada 89003
editors@basinandrangewatch.org

Enclosures

BLM Las Vegas Field Office,
Attn: Gregory Helseth
4701 North Torrey Pines Drive
Las Vegas, NV 89130-2301

April 18, 2012

Via E-mail: BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

Subject: Comments on the DEIS for the Searchlight Wind Energy Project

Dear Mr. Helseth:

On behalf of The Center for Biological Diversity ("Center"), please accept the following comments on the DEIS for the Searchlight Wind Energy Project. We appreciate the notification of this opportunity to comment.

The Center is a non-profit, public interest environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has over 350,000 members and on-line activists throughout Nevada and the United States.

We submit these comments on behalf of our members, activists, staff, and members of the general public who are interested in protecting native species and their habitats, quiet recreation activities, and wilderness experiences on BLM public lands, particularly those lands impacted by this project.

The development of renewable energy is a critical component of efforts to reduce carbon pollution and climate-warming gases, avoid the worst consequences of global warming, and to assist in meeting needed emission reductions. The Center strongly supports the development of renewable energy production. However, like any project, proposed wind power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitat, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

The Center offers the following scoping comments for your consideration:

1. The DEIS fails to adequately disclose and evaluate the likely impacts of the project on natural resources.

The DEIS's discussion of likely impacts to wildlife, both birds and mammals, is cursory, omits discussion of significant scientific information, and fails to evaluate adequately the significant

Potential impacts to wildlife species are addressed throughout Sections 4.4-Biological Resources Impacts. Pursuant to Section 7 of the Endangered Species Act, BLM has complete consultation with the USFWS resulting in a Biological Opinion. Appendix B-2: USFWS Biological Opinion contains the required desert tortoise mitigation measures and a discussion of how such mitigation would be effective. A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution) on birds.

harm which the generation and transmission project is likely to cause to wildlife. The DEIS's discussion of impacts to desert tortoise that will result if BLM grants the requested ROWs is inadequate because it provides no information about mitigation. The DEIS similarly understates likely impacts to golden eagles, other avian species and bats.

BLM must collect, evaluate, and disclose to the public accurate and complete information about the likely impacts to wildlife from the project. The DEIS in its current form does not meet the level of adequacy and completeness required by law.

Of particular concern are the potential impacts to the desert tortoise, a threatened species protected by the Endangered Species Act ("ESA"), Golden and Bald Eagles, protected under the Bald and Golden Eagle Protection Act ("BGEPA"), as well as other raptors and birds protected under the Migratory Bird Treaty Act ("MBTA"), and bats, several of which are BLM and/or state sensitive species.

Desert tortoise

The DEIS discloses that during surveys conducted on the project site, 122 tortoises were located on the project site within the narrow survey belts, indicating a population of 8.2 tortoises per square kilometer. This is a very high density considering the average density of tortoises found by the U.S. Fish and Wildlife Service in its 2010 population monitoring for the Piute-Eldorado Area of Critical Environmental Concern, which encircles the project site was 3.2 tortoises per kilometer.[1] The entire East Mojave Recovery Unit had only an average density of 3.6 tortoises per kilometer.[2]

While technically the project area lies in "donut-hole" of undesignated tortoise habitat, it provides excellent tortoise habitat and is none-the-less critically important for the effort of recovering the Eastern Mojave population. In addition, the proposed project would fragment tortoise habitat and serve as a barrier to migration and gene-flow between the Eastern and Northeastern Mojave Recovery Units.

The DEIS is inadequate in that the public literally has no information on which to base comments regarding the specific impacts of this specific project on the tortoise or how BLM proposes to avoid or mitigate those impacts. There is no information about what mitigation is proposed, only a listing of possible measures that "may" be included. This failure to disclose is a serious flaw and the BLM should prepare a supplemental EIS to fill in the informational gaps for reviewers.

The ESA was enacted, in part, to provide a "means whereby the ecosystems upon which endangered species and threatened species depend may be conserved...[and] a program for the conservation of such endangered species and threatened species..." 16 U.S.C. § 1531(b). The

[1] U.S. Fish and Wildlife Service. 2010. Range-wide Monitoring of the Mojave Population of the Desert Tortoise – 2010 Annual Report. Table 6. Available at: http://www.fws.gov/nevada/desert_tortoise/documents/reports/2010/2010_DRAFT_Rangewide_Desert_Tortoise_Population_Monitoring.pdf .
[2] Ibid.

Effects to desert tortoise are discussed in Section 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives. Pursuant to Section 7 of the Endangered Species Act, BLM has complete consultation with the USFWS resulting in a Biological Opinion, which includes the required mitigation (Appendix B-2: USFWS Biological Opinion).

ESA "is the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." *Tennessee Valley Authority v. Hill*, 437 U.S. 153, 180 (1978). The Supreme Court's review of the ESA's "language, history, and structure" convinced the Court "beyond a doubt" that "Congress intended endangered species to be afforded the highest of priorities." *Id.* at 174. As the Court found, "the plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost." *Id.* at 184.

Section 2(c) of the ESA establishes that it is "…the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." 16 U.S.C. § 1531(c)(1). The ESA defines "conservation" to mean "…the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary." 16 U.S.C. § 1532(3). Similarly, Section 7(a)(1) of the ESA directs that federal agencies to "utilize their authorities in furtherance of the purposes" of the ESA. 16 U.S.C. § 1536(a)(1)..

In order to fulfill the substantive purposes of the ESA, Federal agencies, such as BLM in this instance, are required to engage in consultation with the Fish and Wildlife Service to "insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the adverse modification of habitat of such species... determined...to be critical..." 16 U.S.C. § 1536(a)(2) (Section 7 consultation). Section 7 consultation is required for "any action [that] may affect listed species or critical habitat." 50 C.F.R. § 402.14. As part of the consultation, the action agency must first prepare a biological assessment. 16 U.S.C. § 1536(c)(1). Although procedural, consultation is the backbone of the ESA. As the Ninth Circuit recognized, "[o]nly by requiring substantial compliance with the act's procedures can we effectuate" Congressional intent to protect species. *Sierra Club v. Marsh*, 816 F.2d at 1384 (9th Cir. 1987).

As part of the proposed project BLM has initiated consultation with the Fish &Wildlife Service ("Service") regarding impacts to the threatened desert tortoise and its habitat in order to ensure against jeopardy and provide for the conservation of the species. *See Nat'l Wildlife Fed'n v. NMFS*, 524 F.3d 917, 933 (9th Cir. 2008) (holding that the ESA requires consideration of impacts to species' prospects for recovery in jeopardy analysis). In order to engage in meaningful consultation the agencies must have adequate information regarding the baseline status of the species in the area of the proposed project as well as adequate identification and analysis of the likely impacts of the project on the species and its habitat and the long-term conservation of the species including direct, indirect and cumulative impacts. In this instance, the Service must be provided with sufficient information to determine the impacts of the proposed project on the tortoise including the degree to which the proposed project could undermine the species' ability to recover in light of direct, indirect and cumulative impacts of the proposed project as well as other threats (including climate change and the need to preserve healthy tortoise populations that will well suited and positioned to adapt to rapid changes.).

Protocol level surveys for desert tortoise on the proposed project site, as previously noted, estimate the number of tortoises to be affected by this project at 122 animals. The actual number of desert tortoises on site is likely much higher, based on the effectiveness of protocol level

surveys on finding all onsite tortoises[3], especially given the vast number of acres of the proposed project site, and the undercounting of juvenile animals. The survey data confirms that this area is at least moderate to high quality desert tortoise habitat with a population that is at least as robust as those within the neighboring Piute-Eldorado ACEC and should be protected as such.

Nowhere in the DEIS was protection from predators, particularly ravens, discussed. As ravens are a primary predator of juvenile tortoises and as they seek perches such as transmission poles from which to spot their prey, the BLM must address this threat to the tortoise. Additionally, the creation of new service roads poses an increased threat to tortoise from dirt bikes and off-highway vehicles. In a supplemental DEIS, the BLM must analyze this threat and disclose its impacts on tortoises and other creatures as well as how the impacts will be avoided, minimized and mitigated.

Refer to Section 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives, which discusses increased perching opportunities for ravens and impacts from the introduction of new roads and associated increased traffic.

A primary concern is the possibility of any plan to relocate or translocate desert tortoises from the site.[4] No information is provided about the need for translocation or about possible recipient sites, most importantly, their location, ability to absorb more animals and the permanency of the protection.

Mitigation measures proposed in the DEIS and issued in the Biological Opinion did not include translocation of tortoise, rather it was proposed that tortoises would be moved out of harm's way during construction activities (Appendix B-2: USFWS Biological Opinion).

To date, translocation of desert tortoise always results in "take" of tortoises and certainly does not aide in the recovery of the threatened species. Even "successful" translocation has been documented to have a15-21% mortality[5]. Significant losses of tortoises through a recent translocation effort in 2008 - the Fort Irwin translocation - resulted in over 20% mortality within the first year. Further monitoring has documented as of August 2009, over 250 desert tortoise (38%) have died in the translocation areas of Fort Irwin[6]. This translocation has resulted in further declines in the west Mojave recovery unit to the detriment of recovery of the species as a whole.

The Scientific Advisory Committee of the U.S. Fish and Wildlife Service's Desert Tortoise Recovery Office has recently concluded that "translocation is fraught with long-term uncertainties, notwithstanding recent research showing short-term successes, and should not be considered lightly as a management option. When considered, translocation should be part of a strategic population augmentation program, targeted toward depleted populations in areas containing "good" habitat. The SAC recognizes that quantitative measures of habitat quality relative to desert tortoise demographics or population status currently do not exist, and a specific measure of "depleted" (e.g., ratio of dead to live tortoises in surveys of the potential translocation

[3] Anderson, D.R., K.P. Burnham, B.C. Lubow, L. Thomas, P.S. Corn, P.A. Medica and R.W. Marlow 2001. Field Trials of Line Transect Methods Applied to Estimation of Desert Tortoise Abundance. Journal of Wildlife Management 65(3): 583-597.

[4] There is no currently agreed upon definition of relocation or how it differs from translocation, other than a sense it involves a shorter distance of movement of the animal. For these comments the two terms will be combined into the term, "translocation".

[5] Field, K.J., C. R. Tracy, P.A. Medica, R.W. Marlow, P.S. Corn 2007. Return to the Wild: Translocation as a Tool in Conservation of the Desert Tortoise (Gopherus agassizi). Biological Conservation 136: 232-245; and, Nussear, K.E. 2004. Mechanistic investigation of the distributional limits of the desert tortoise *Gopherus agassizii*. PhD dissertation. University of Nevada, Reno. Pgs. 213.

[6] USFWS. 2009. Draft Biological Opinion for the Proposed Addition of Maneuver Training Lands at Fort Irwin, California (8-8-09-F-43R). Page 48.

area) was not identified.[7] The proposed project can hardly be considered a "strategic augmentation program".

These data and conclusions by desert tortoise experts negate any logical basis for presenting translocation as aiding in recovering the species. The risks associated with translocation in general are now well established and quite high[8]. Because of this, the agencies need to take seriously a full and honest evaluation of the need, if any, to site projects within essential, occupied desert tortoise habitat. Siting projects in areas that lack desert tortoise would preclude the need for translocation and the inevitable mortality that translocation causes.

If translocation must occur as part of the project implementation, the translocation plan needs to be thoroughly developed and vetted by knowledgeable tortoise science and management experts and provided for public review.

Any plan must thoroughly address a number of essential desert tortoise issues:

Disease issues

The health of the desert tortoises that are on the site and proposed for translocation as well as the "host" tortoises in areas into which the translocated tortoises will be moved must be evaluated and addressed. Regardless of the proximity of the translocated and host tortoises, data still needs to be collected on the state of the population at a minimum to help inform the results of the translocation. If disease is present in either the translocated tortoises or "host" tortoises, concentrating tortoises into off-site areas may exacerbate disease transmission and outbreaks especially coupled with the stresses of translocation, competition for scarce resources, defense of existing territories (host population), establishment of new territories (relocated population), etc.

Carrying Capacity

The carrying capacity of the translocation sites, and their ability to support greater tortoise densities over the long-term must be assessed. While a die-off of tortoises is known from the Ivanpah Valley in the 1990's, there is no evidence presented in any of the documents that the habitat has the capacity to provide resources to sustain over the long-term a higher density population. In light of global climate change and its effects currently occurring on the desert[9], the habitat may simply not be able to support a more concentrated population now or into the future.

[7] USFWS. 2009. Scientific Advisory Committee (SAC), Desert Tortoise Recovery Office. Meeting Summary, March 13, 2009, San Diego Wild Animal Park, Escondido, CA. pgs 4. http://www.fws.gov/Nevada/desert_tortoise/documents/sac/20090313_SAC_meeting_summary.pdf

[8] Dodd, C.K. and R.A. Seigel 1991. Relocation, repatriation and translocation of ampibians and reptiles: are they conservation strategies that work? Herpetologica 47(3): 336-350.

[9] Kelly, A. E. and M.L. Goulden 2008. Rapid shifts in plant distribution with recent climate change. *Proc Natl Acad Sci USA* 105:11823–11826.

Monitoring

Not only should the translocated tortoises be monitored but it is essential that the "host" tortoises also be monitored, to truly evaluate the status of the translocation. Rigorous monitoring needs to be included in the plan.

Objectives and Analyses

Criteria of success must identified in the translocation plan. Monitoring must be tied to triggers for action, adaptive management, or success criteria. Benchmarks for success need to be identified and additional requirements put in place to mitigate failures of this experimental proposal.

Timing

Translocation of desert tortoise should be done in spring when possible. Translocation in the fall is not optimal especially if summer/fall rains do not occur. If translocation must occur, flexibility in timing is essential to help to assure successful translocation to help meet the minimization standard.

Long-term assurances

Measures must be put in place to assure the long-term protection of the desert tortoises that are moved and the habitat into which they are moved. As the BLM is well aware, multiple projects are proposed for this same area, and other areas in the Mojave Desert. Assurances must be included so that the desert tortoise affected by this project are not impacted again by a subsequent project. We remain concerned however, that lacking a comprehensive strategy for tortoise conservation. Tortoises could be translocated multiple times, which clearly will be detrimental to the species and its recovery.

Golden and bald eagles

These two species are among the species considered by the BLM to being sensitive species in Nevada.

Management of special status species (and indeed all rare species) on BLM lands should focus on ensuring long term survival and recovery in order to prevent the need for future listings. Little in the DEIS shows that the BLM took into consideration these critical management concerns. *See* BLM Manual 6840.2.C (Implementation) ("BLM shall manage Bureau sensitive species and their habitats to minimize or eliminate threats affecting the status of the species or to improve the condition of the species habitat, by . . . [e]nsuring that BLM activities affecting Bureau sensitive species are carried out in a way that is consistent with its objectives for managing those species and their habitats at the appropriate spatial scale . . . [and] [c]onsidering ecosystem management and the conservation of native biodiversity to reduce the likelihood that any native species will

require Bureau sensitive species status").

The DEIS notes that golden eagles are potentially nesting in the nearby mountain regions encircling the project and through surveys identified at least three eagle nests within 4-miles of the project. The DEIS fails to present exactly how it will mitigate the loss of a substantial amount of foraging habitat for the golden eagle, either as a result of this project, or cumulatively as a result of projects within the Piute-Eldorado Valleys. The fact still remains that significant amounts of foraging habitat will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair, which would impact reproductive capacity.

The DEIS fails to disclose the number of pairs of golden eagles that could be affected by the proposed project. Scientific literature on this subject is clear - the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat-altering disturbance even if the human is far from an active nest[10]. Regardless of distance, a straight line view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involves calculation of view sheds using a three-dimensional GIS tool and development of buffers based on the modeling[11]. Also, since golden eagles use only a small subset of their home territories during nesting for foraging, these essential areas may include the proposed project site, however the DEIS does not analyze this important factor of nesting success.

While bald eagles are unlikely to utilize the project area for long-term habitat, they do utilize nearby Lakes Mead and Mojave during the winter. Nowhere does the BLM examine the likely or possible impacts on migrating or over-wintering bald eagles in this DEIS.

Because environmental review does not adequately identify or analyze impacts to eagles from the proposed project it is impossible for the BLM to ensure that the project is consistent with the Migratory Bird Treaty Act (16 U.S.C. § 701 *et seq.*) or the Bald and Golden Eagle Protection Act (16 U.S.C. § 668 et seq.), both of which prohibit take.

To address this data and analysis disclosure deficiency, the BLM must prepare a supplemental EIS containing said analysis. Further, the BLM should require that the proponent pursue an incidental take permit under the BGEPA as part of the terms and conditions of receiving a ROW Permit.

Other BLM sensitive species and migratory birds

While surveys were conducted for birds and bats, there was little to no disclosure of how the BLM intended to avoid, minimize or mitigate the potential impacts. Instead, it was inferred that the details would be worked out later in an avian and bat protection plan. This approach affords

[10] Richardson and Miller. 1997. Recommendations for protecting raptors from human disturbance: a review. Wildlife Society Bulletin 25(3): 634-638.
[11] Camp, R.J., D.T. Sinton and R.L. Knight 1997. Viewsheds: a Complementary Management Approach to Buffer Zones. Wildlife Society Bulletin 25(3): 612-615; and Richardson and Miller. 1997.
Richardson and Miller 1997

As discussed in the EIS, the Proposed Project would result in the loss of some foraging habitat for the golden eagle; however, the proportion of foraging habitat that would be lost due to the Proposed Project is small compared to the total amount of available foraging habitat within the Piute and Eldorado Valleys.

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The BBCS provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution) on birds. The intention is not to predict the number of fatalities due to turbine collision as pre-construction data poorly predicts fatalities for birds (Ferrer et al. 2012), but to determine if any species is at high risk to inform post-construction fatality monitoring.

the stakeholders little to no opportunity to review, analyze and comment on the effectiveness of the proposed measures and how they will affect the environmental impacts.

It must also be noted that the project area borders and engulfs an Audubon Important Bird Area ("IBA"), the Catclaw Washes IBA, which has formally recognized status at the state level.[12]

Comment noted.

The unique vegetation of the washes supports a suite of bird species that is distinct from the surrounding desert. The washes were nominated and recognized for the critical resources they offer to Phainopepla, a species of concern in Nevada. Phainopepla rely heavily on the mistletoe seed crop produced in these areas, the mistletoe in turn is dependent on the catclaw acacia and mesquite as hosts. The Phainopepla also nest in the acacia and mesquite. The densities of Phainopeplas at this site are consistently among the highest in the state (only two other sites have comparable densities), and in some years, breeding success in Piute Valley is higher than anywhere else known. Moreover, the milder temperatures at this complex of sites may help Phainopeplas persist when they cannot occupy other sites in the state (sub-freezing temperatures cause mistletoe berries to freeze, leaving the birds nothing to eat). Many other species of concern in Southern Nevada utilize the tall shrubs and trees found in these washes. Many species of birds utilize these washes as stopover sites for migration gain opportunities for foraging, resting, and accessing surface water where it is available.[13]

Comment noted.

2. The DEIS fails to Adequately Identify Appropriate Mitigation

Because the DEIS largely fails to provide adequate identification and analysis of impacts, inevitably, it also fails to identify adequate mitigation measures for the project's environmental impacts. "Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that an EIS will discuss the extent to which adverse effects can be avoided." *Methow Valley*, 490 U.S. at 351-52. Because the DEIS does not adequately assess the project's direct, indirect, and cumulative impacts, its analysis of mitigation measures for those impacts is necessarily flawed. The DEIS must discuss mitigation in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Methow Valley*, 490 U.S. at 352; *see also Idaho Sporting Congress*, 137 F.3d at 1151 ("[w]ithout analytical detail to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices"). As the Supreme Court clarified in *Robertson*, 490 U.S. at 352, the "requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of [NEPA] and, more expressly, from CEQ's implementing regulations" and the "omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action forcing' function of NEPA."

BLM requires that mitigation measures are identified as a stipulation of the ROW Grant. Development of mitigation plans often requires input, review, and approval by other regulating agencies such as USFWS, NDEP, DAQ, and NDOT and are not typically completed prior to a Final EIS. However, all the elements and basic requirements of the mitigation plans are discussed throughout the EIS.

Although NEPA does not require that the harms identified actually be mitigated, NEPA does require that an EIS discuss mitigation measures, with "sufficient detail to ensure that

[12] For more information on IBA status and other terms, refer to: http://web4.audubon.org/bird/iba/IBA_Status_Terms.html
[13] See: http://iba.audubon.org/iba/profileReport.do?siteId=981

environmental consequences have been fairly evaluated" and the purpose of the mitigation discussion is to evaluate whether anticipated environmental impacts *can be avoided*. *Methow Valley*, 490 U.S. at 351-52. As the Ninth Circuit recently noted: "[a] mitigation discussion without at least *some* evaluation of effectiveness is useless in making that determination." *South Fork Band Council of Western Shoshone v. DOI* , 588 F.3d 718 , 727 (9th Cir. 2009) (emphasis in original).

Here, the DEIS mostly relies on the preparation of future plans, with no specificity provided as to what the plans will do, and does not provide a full analysis of possible mitigation measures to avoid or lessen the impacts of the proposed project and therefore the BLM cannot properly assess the likelihood that such measures would actually avoid the impacts of the proposed project.

All mitigation plans will be disclosed in the FEIS or as a stipulation of the ROW grant with the exception of the Site Rehabilitation and Facility Decommissioning Plan, which will be completed 6 months prior to project closure.

A supplemental DEIS must be prepared to provide the lacking specificity and details so that a meaningful evaluation of the proposal and its impacts can be achieved.

3. Selection of Alternative and Adequacy of the DEIS

NEPA's disclosure goals are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) to insure that the public has sufficient information to challenge the agency's action. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 322, 349 (1989); *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1151 (9th Cir. 1998). NEPA's "sweeping commitment [is] to prevent or eliminate damage to the environment and biosphere by focusing government and public attention on the environmental effects of proposed agency action." *Marsh v. Or. Natural Resources Council*, 490 U.S. 360, 371 (1989) (*quoting* 42 U.S.C. § 4321). The Council on Environmental Quality ("CEQ") promulgated uniform regulations to implement NEPA that are binding on all federal agencies. 42 U.S.C. § 4342; 40 C.F.R. §§ 1500 *et seq*.

NEPA requires agencies to prepare an EIS for any "major federal actions significantly affecting the quality of the human environment." 42 U.S.C. § 4332(2)(C). An EIS must analyze the direct, indirect, and cumulative environmental impacts of the proposed action. Direct effects are caused by the action and occur at the same time and place as the proposed project. 40 C.F.R. § 1508.8(a). Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. *Id.* at § 1508.8(b). Both types of impacts include "effects on natural resources and on the components, structures, and functioning of affected ecosystems," as well as "aesthetic, historic, cultural, economic, social or health [effects]." *Id.* at § 1508. Cumulative impact results when the "incremental impact of the action [is] added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." *Id.* at § 1508.7.

A major purpose of NEPA is to ensure that federal agencies conduct fully informed environmental decision-making. NEPA promotes its sweeping commitment to "prevent or eliminate damage to the environment and biosphere" by focusing the attention of federal decision makers and the public on the environmental and other impacts of proposed agency action. 42 U.S.C. § 4321. By focusing agency attention on the environmental and socioeconomic

impacts of a proposed action, NEPA ensures that the agency will not act on incomplete information, only to regret its decision once finalized. *See Methow Valley Citizens Council*, 490 U.S. at 349. To that end, "[t]he sweep of NEPA is extraordinarily broad, compelling consideration of any and all types of environmental impacts of federal action." *Calvert Cliffs' Coordinating Comm. v. U.S. Atomic Energy Comm'n*, 449 F.2d 1109, 1122 (D.C. Cir. 1971). An agency must "take the initiative of considering environmental values at every distinctive and comprehensive stage of the process." *Id.* at 1111. Federal agencies must consider all reasonably foreseeable environmental impacts at the earliest possible stage of a project's development and fully such impacts before making a decision to proceed with the project.

Under the NEPA regulations, a draft EIS "must fulfill and satisfy to the fullest extent possible the requirements established for final statements." 40 C.F.R. § 1502.9(a). When a draft EIS "is so inadequate as to preclude meaningful analysis, the agency shall prepare and circulate a revised draft of the appropriate portion." *Id.* Substantial changes in the proposed action, or significant new circumstances or information relevant to environmental concerns, trigger a mandatory obligation to prepare a supplemental draft EIS. *Id.* § 1502.9(c)(1).

"NEPA's public comment procedures are at the heart of the NEPA review process" and reflect "the paramount Congressional desire to internalize opposing viewpoints into the decision making process to ensure that an agency is cognizant of all the environmental trade-offs that are implicit in a decision." *Cal. v. Block*, 690 F.2d 753, 770-71 (9th Cir. 1982). It is only at the stage when the draft EIS is circulated that the public and outside agencies have the opportunity to evaluate and comment on the proposal. *Id.* at 771. "No such right exists upon issuance of a final EIS." *Id.* Consequently, an agency's failure to disclose the impacts of a proposed action before the issuance of a final EIS defeats NEPA's goal of encouraging public participation in the development of information *during* the decision making process. *Half Moon Bay Fishermans' Marketing Ass'n v. Carlucci*, 857 F.2d 505, 508 (9th Cir. 1988).

BLM is required to "describe the environment of the areas to be affected or created by the alternatives under consideration." 40 CFR § 1502.15. The establishment of the baseline conditions of the affected environment is a practical requirement of the NEPA process. In *Half Moon Bay*, the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." 857 F.3d at 510. Similarly, without a clear understanding of the current status of these public lands BLM cannot make a rational decision regarding proposed project. *See Ctr. for Biol. Diversity v. BLM*, 422 F. Supp. 2d 1115, 1166-68 (N.D. Cal. 2006) (holding that it was arbitrary and capricious for BLM to approve a project based on outdated and inaccurate information regarding biological resources found on public lands). As described throughout these comments, BLM has failed to provide accurate baseline information about a wide variety of resources at and surrounding the project site, including the status of the desert tortoise and other sensitive and rare plant and animal communities.

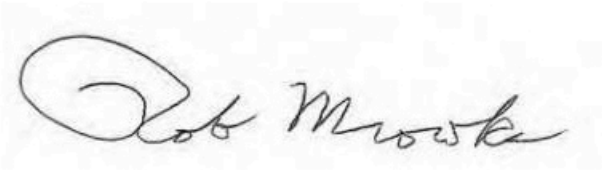
A draft Environmental Impact Statement must provide the public with sufficient information to permit meaningful consideration of the action under agency review. *Cal. v. Block*, 690 F.2d at 772. The DEIS here fails to provide sufficient information in several regards and requires supplementation and further opportunity for public review and comment.

Refer to Chapter 3-Affected Environment, which discusses in detail the baseline of the proposed project area.

Contributing to the deficiencies in the DEIS, the BLM fails to adequately disclose its reasoning for their preference of the 87 wind turbine alternative, other to state that because it disturbs marginally less land it results in the least environmental impacts. Only with respect to air quality and meeting state implementation plans is any specific rationale offered. The BLM must prepare a supplemental DEIS to disclose not only its rationale for the 87 turbine alternative, but also it should evaluate other configurations and designs that minimize the adverse impacts, particularly on birds and bats.

The Center appreciates the opportunity to comment on this project and hopes to be able to review the much needed supplemental DEIS prepared to address these and other comments.

Sincerely yours in conservation,



Rob Mrowka
Ecologist/Conservation Advocate

The provisions for preparation of a Supplemental EIS are described in 40 CFR 1502.9, (c) (1) (i), "The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts."

Preparation of a Supplemental EIS is not warranted because neither of these conditions apply, the proposed action has not been substantively changed since publication of the DEIS and no significant new information was provided or developed during the public comment period.

Basin and Range Watch

April 18, 2012

BLM, Las Vegas Field Office
Attn: Greg Helseth, Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

ghelseth@blm.gov
BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

Dear Greg,

We would like to submit this supplement letter to the comment letter we signed on to for the Draft Environmental Impact Statement (DEIS) for the Searchlight Wind Energy Project (NVN-084626)

Basin and Range Watch signed on to the letter with Judy Bundorf and Friends of Searchlight Deserts and Mountains. While most of our ideas were represented in that letter, we would like to add this additional comment on Cultural Resources that was not covered in the original letter.

On Wednesday, April 10th, we traveled to Needles, California to interview Phillip Smith who is a Chemehuevi Elder. We wanted to ask him his opinion of how cultural artifacts and values would be impacted by the development of the proposed Searchlight Wind Energy Facility. Mr. Smith told us he does not represent the Chemehuevi Tribal Council, but is a concerned elder.

In order to keep this as accurate as possible, we have included the original notes from the conversation. Due to the sensitive nature of cultural resources, we would also like to request that this letter not be placed in the public comment viewing section of the Final Environmental Impact Statement.

Mr. Smith informed us that the Bureau of Land Management did meet with members of the local tribes, but very little specific information about what is actually out there was discussed.

In general, many of us are concerned that the BLM and Duke Energy failed to do a complete survey and inventory of the cultural resources located on the Searchlight Wind Energy site. Many of the prioritized renewable energy projects (formerly referred to as Fast Track Projects) have been approved with unsatisfactory biological or cultural surveys. The Genesis Solar Power Project just west of Blythe, California was approved by the Interior Department before adequate

The overall Project area has previously been disturbed from a century of mining activities. Tailings piles, adits, dirt roads, and prospects dot the landscape. The Class III cultural resources survey was conducted within the Project's linear Area of Potential Effect (APE), currently defined as any area to be disturbed plus a 200-ft. buffer around all project roads and facilities. The proponent would be required to stay within the Project's linear corridor and would not disturb non-inventoried lands if the Right-of-Way is granted.

cultural resource surveys could be conducted. As a result, federal and state agency officials caught off guard when large Earth movers-uncovered evidence of a human settlement that was possibly an ancient cremation site. http://articles.latimes.com/2012/feb/11/local/la-me-solar-foxes-20120211

The same deferred mitigation tactics are being used to review the Searchlight Wind Project. In order to prevent a repeat of the Genesis problem, we believe that BLM and Duke Energy will need to conduct more complete cultural resource surveys on the project site before a decision can be made about impacts to cultural resources.

Thank you,

Submitted by:

Basin and Range Watch

Kevin Emmerich

Laura Cunningham

P.O. Box 70

Beatty, Nevada, 89003

Interview with Phil Smith, Chemehuevi Elder, Needles, California. April 10, 2012.

Mr. Smith gave us his verbal permission to write down his statements and submit them on his behalf as comments to the Draft Environmental Impact Statement for the Searchlight Wind Energy Project in Clark County, Nevada. Notes taken by Laura Cunningham.

Phil Smith: Cottonwood Island is where Chemehuevi and Mojaves lived together on the island and intermarried, and they also came up through the Searchlight Hills. There is a woman who lives in Searchlight, she is a historian. She is in her nineties. She says there are some burial sites south of Cottonwood Road in the project site.

I looked around there, I found an old heavily used trail in the hills of the southern part of the project site. Maybe it goes through to Spirit Mountain or the River, and to Ivanpah. I just looked, I want to go back.

The bones at Searchlight, they would be Chemehuevi. If it was a cremation would be Mojave.

NHPA Law 106 means consultation. We had one visit with BLM (to the Searchlight Wind project site). Also Shoshone, Hualapai. One visit to look at tower sites. This is unfinished, we need more study, we need to come back on more visits, but we have not heard back from BLM. On our visit with BLM it was getting too hot so we stopped. But this is unfinished. They think they can get us

out there one time and that's it. For the coal burning plant in Ivanpah Valley SCE met with all the Tribes, in their tribal offices. But the solar companies, BLM, don't do this now.

There are many turtles there. Wildlife is returning there, we need to protect them.

The turbine view from Spirit Mountain is a concern.

This project needs to have a Cultural Monitor.

There were stories there before there were projects.

DESERT TORTOISE COUNCIL
P.O. Box 1568
Ridgecrest, California 93556
www.deserttortoise.org

April 13, 2012

Via Email and U.S. Mail

Mr. Gregory Helseth
Bureau of Land Management
Las Vegas Field Office
4701 North Torrey Pines Drive
Las Vegas, NV 89130-2301
BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

Re: Draft Environmental Impact Statement for the Searchlight Wind Energy Project (NVN – 084626)

Dear Mr. Helseth:

The Desert Tortoise Council welcomes the opportunity to comment on the Draft Environmental Impact Statement (DEIS) for the proposed Searchlight Wind Energy Project (Searchlight WEP).

The Council is a private, non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of this species. Established in 1976 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council regularly provides information to individuals, organizations and regulatory agencies on matters potentially affecting the desert tortoise within its historical range. Accordingly, our comments will focus on the potential impacts of the Searchlight Wind Energy Project to the Mojave desert tortoise and the tortoise populations on the proposed site.

The Council believes the potential impacts of Searchlight WEP on biological resources cannot be reduced to less than significant levels because the acreage provides especially valuable habitat for the conservation and recovery of the Federal listed Mojave desert tortoise. While the proposed site is not within a Desert Wildlife Management Area (DWMA), the *Desert Tortoise Recovery Plan* states: "Habitat outside DWMAs may

Comment noted.

provide corridors for genetic exchange and dispersal of desert tortoises among DWMAs" (1994, 60). The Mojave desert tortoise was listed as a "threatened species" under the Federal Endangered Species Act in 1990 because of the precipitous decline in desert tortoise numbers due to human-caused mortality and the destruction and fragmentation of desert tortoise habitat. Siting Searchlight WEP on occupied desert tortoise habitat would contribute directly to the continued decline of the Mojave desert tortoise. Given that desert tortoise populations have been extirpated or almost extirpated from large portions of their geographical range in Nevada, it is reasonable that this valuable habitat be protected for desert tortoise conservation rather than for energy generation.

Tortoise populations within the project area appear to be greater than populations within the adjacent DWMA. According to the *Range-Wide Monitoring of the Mojave Population of the Desert Tortoise: 2010 Annual Report* (USFWS 2010, Table 6) and *Range-Wide Monitoring of the Mojave Population of the Desert Tortoise: 2008 and 2009 Annual Report* (USFWS 2010, Table 11 & 12) populations in the Piute-Eldorado DWMA have ranged from 3.1 -3.7 tortoises per square kilometer. According to the Desert Tortoise Survey of the proposed Duke Wind Searchlight Wind Energy Farm (SNEI 2011) the tortoise density within the project area was approximately 8.2 tortoise per square kilometer. This density is more than two times higher than in the DWMA. The importance of the desert tortoise population at the proposed site and the necessity of protecting it is further supported by scientific evidence that the population density there is comparatively higher than other areas in Nevada. Protecting this tortoise population - part of the Eastern Desert Tortoise Recovery Unit - will contribute to ensuring the genetic diversity of the Mojave desert tortoise.

Of particular concern is the area north of Highway 164 where it appears from Figure 1 SNEI Desert Tortoise Survey the density could be around 16 tortoises per square kilometer. If the project is approved, wind turbine generators (WTG) 1-28 need to be removed from the project to protect this high population of tortoises.

Comment noted. BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion).

According to the DEIS, the 96 WTG Alternative will permanently impact 160 acres and temporarily impact 249 acres of desert tortoise habitat. Because habitat recovers very slowly in the desert, all impacts should be considered permanent. Robert Webb explains that - depending on the assumptions of the model -"the extrapolated amount of time for complete or 90% recovery of compacted [desert] soils ranges from 80 to 120 years for course-grained soils…." He adds that severely disturbed sites "may require as little as a century or as long as several thousand years for full recovery of species composition" (2009). By way of illustration, Wilshire, Nielson and Hazlett report that "severely compacted soils at 29 of 31 abandoned military bases and mining town sites have not recovered even after 91 years without human occupation" and recovery of plants and animal species "is likely to take much longer, on the order of a millennium" (2008, 305).

Comment noted.

The Cumulative Effects section in Chapter 4 only addresses known BLM projects that could be developed in the area. Are there other large-scale projects proposed for the area not on BLM land? If so, these also need to be addressed here.

Section 4.17.4-Reasonable Foreseeable Actions has been updated to include methodology on how non-federal projects and federal project near the Searchlight Wind Energy Project were identified for the cumulative analysis.

Direct and indirect impacts from the project will be long lasting. It will mean not only maintenance vehicles within the area, but, as mentioned in the document, increased traffic from OHV recreationalists which will further increase the potential of tortoise being struck by vehicles. Not only because of the increased roads in the areas, but because of the width and smoothness of the roads which will enable vehicles to travel at a higher rate of speed. It could also mean additional habitat disturbance within the area as vehicles travel off the main roads. Since there is likely to be more use in the area, there is also likely to be additional trash, bringing more ravens, which feed on juvenile tortoises.

Comment is consistent with information already presented throughout Section 4.4-Biological Resources Impacts.

Mitigation provided in the DEIS does nothing to mitigate for the residual impacts to desert tortoises or other species on site.

Residual impacts are defined as impacts that remain after mitigation measures have been implemented.

The current rate of $786/acre for loss of habitat seems low in light of the current market for land to use for alternative energy development and mitigation for other projects. In addition, due to the density of tortoise on the site, the mitigation ratio should be at least 3:1 for habitat compensation.

The rate is determined by USFWS and adjusted annually for inflation. At the time the DEIS was published $786/acre was the rate; however, the rate is currently $810/acres and this is reflected in the Biological Opinion.

In sum, based on our assessment of the proposed project's location, configuration, minimal mitigation, residual and other potential impacts to desert tortoise, the Desert Tortoise Council believes there will be significant impacts to tortoises and recommends the No Project/No Action Alternative with respect to Searchlight Wind Energy Project.

Comment noted.

Thank you for the opportunity to comment on the DEIS. Please contact me by telephone at (909) 946-5027, by e-mail at gssilliman@csupomona.edu, or by U.S. mail at the address below if you wish clarification of these comments.

Sincerely,

G. Sidney Silliman

Sidney Silliman, Ph.D.
Desert Tortoise Council
1225 Adriana Way
Upland, CA 91784

References

Desert Tortoise Recovery Team, U.S. Fish and Wildlife Service. *Desert Tortoise (Mojave Population) Recovery Plan*. Portland: U.S. Fish and Wildlife Service, 1994.

SNEI Tortoise Survey of the proposed Duke Wind Searchlight Wind Energy Farm. 2011

U.S. Fish and Wildlife Service. *Draft Revised Recovery Plan for the Mojave Population of the Desert Tortoise (Gopherus agassizii)*. U.S. Fish and Wildlife Service, California and Nevada Region, Sacramento, California. 2008.

U. S. Fish and Wildlife Service. *Range-Wide Monitoring of the Mojave Population of the Desert Tortoise: 2008 and 2009 Annual Report*. Reno, Nevada: Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service. 2010.

U. S. Fish and Wildlife Service. *Range-Wide Monitoring of the Mojave Population of the Desert Tortoise: 2010*. Reno, Nevada: Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service. 2010.

Webb, Robert H. "Disturbance, Vulnerability, and Recoverability of Soils and Vegetation in the Mojave Desert." Presentation at the Southern California Botanists 35th Annual Symposium "Desert Botany: Bounty or Bust," California State University, Fullerton. October 17, 2009.

Wilshire, Howard G., Jane E. Nielson, and Richard W. Hazlett. *The American West At Risk: Science, Myths, and Politics of Land Abuse and Recovery*. New York: Oxford University Press, 2008.

Email: BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

April 18, 2012

RE: Comments on the Searchlight Wind Energy Draft EIS (NVN-084626 & NVN-086777)

Dear Mr. Helseth:

Please accept the following comments on behalf of our organization, the Nevada Wilderness Project (NWP). The NWP is a membership-based organization involving over 2,000 people. We serve as a catalyst for wildlife habitat conservation, wilderness preservation, and smart development of renewable energy. We have work on conservation issues affecting public lands and since our inception in 1999, we have successfully led statewide campaigns to protect more than 3 million acres as Wilderness and National Conservation Areas and have proffered advice, influence and commentary toward carefully-crafted land use policies and decisions. We acknowledge this nation's objective to reduce its emissions of greenhouse gases into the atmosphere and support the wise development of renewable energy pursuant to the Energy Policy Act of 2005 as one effort to achieve that objective.

We thank the Bureau of Land Management (BLM) for the opportunity to comment on the Draft Environmental Impact Statement (DEIS) and Notice of Segregation addressing Duke Energy's (Applicant) request for a public lands right-of-way (ROW) grant for its proposed Searchlight Wind Energy Project (Project) near the town of Searchlight, Nevada. The DEIS also addresses the Western Area Power Administration's (Western) proposal (ROW application NVN-086777) to construct and operate its new switching station to interconnect electricity produced by the Project into its electrical grid. We also address this element of the development within our comments.

We support the Applicant's Project Alternative involving the placing of 87 wind turbine generators (WTGs), also identified as BLM's Preferred Alternative. As a conservation-minded organization NWP is not inclined to investigate the Applicant's business considerations, so we must assume that the preferred alternative represents the lowest footprint allowed while maintaining the Applicant's commitment to meet their power purchase agreement with Western. Given the choices, our support is principally founded on the fact that preferred alternative results in a reduced sum of disturbed acreage. We acknowledge the "fast-track" designation applied to the Project and the resultant determination that a No-Action Alternative is not considered within the DEIS.

A no action alternative is considered in the DEIS (Refer to Section 2.1.2.1-No Action Alternative).

Off Highway Vehicle (OHV) Traffic – The NWP recognizes that presently there are unimproved roads and trails within the Project area that now support limited vehicular use. Most of these roads were created many years ago to access mine sites. Others were used to access locations where artificial water developments, commonly called "guzzlers", were built for the benefit of area wildlife, specifically Gamble's quail. Transmission line maintenance roads were also established in the area. Accordingly, there has been and continues to be significant vehicular

access to the landscape of the Project area and beyond. However, given the nature of the habitat and the fact that these were and are not operationally maintained routes, many of the roads and trails have fallen into disrepair either because of natural effects or because of indiscriminate use by vehicle operators, most recently by OHVs classified as all-terrain vehicles – ATVs, or quads.

Because of the rough condition of these roads and trails, vehicles had to negotiate them at comparatively low rates of speed. We are concerned vehicle speeds will increase with the improvement of existing routes and the construction of new roads for the Project. The Applicant has addressed this for the construction phase of the Project by invoking a 15MPH speed limit by construction vehicles during period of high tortoise activity (see Applicant's Proposed Measures [APM] *MM BIO-3: Biological Opinion*). We can only speculate how much additional traffic will be encouraged by the improved roads and the speeds at which these vehicles will travel. Any increase in either traffic volume or rate of speed should be considered a hazard to ground-dwelling animals, particularly the slow-moving desert tortoise, Gila monster and a number of other reptiles.

The Applicant has offered the APM of a Traffic Management Plan (*MM TRAN-1*) for the Project's construction phase. We advise that a post-development traffic plan is necessary to monitor these concerns and to act on them if the monitoring data indicates that actions to ameliorate impacts are necessary. This plan would extend beyond the APM for mitigation described within *MM BIO-1: Interim Reclamation.* Actions described within the plan could involve fencing and gating to deny access just within the Project area and construction of an access road for recreationists that circumvents the Project area. At a minimum we believe that signage should be erected that cautions vehicle operators to be mindful of animals on these roads and trails during critical time periods, these being agreed upon by biological experts.

Post-construction traffic would be limited to maintenance vehicles and is not expected to affect the current level of service of the existing recreational and local traffic; therefore an additional Traffic Management Plan would not be warranted.

Desert Tortoise – The Project area exists within habitat designated as "moderate" for tortoise population occurrence. This is habitat that tends to have a greater slope and is often characterized by rocky terrain. We are concerned that the criteria used for this designation may overlook tortoise observation biases within the landscape in this zone; the ability for an observer to see a tortoise relative to the clutter (rocks, scree, plants) within the view area. Simply, tortoises are easier to see in washes than they are amidst ground littered with rocks, vegetation and other physical masses.

Comment noted.

We assume that the Applicant, having received considerable comment regarding the impacts to this threatened species, exercised diligence in the final configurations of the 96 and 87 WTG layout alternatives. One would assume that the clustering of the towers could mitigate land disturbance, particularly in avoidance of tortoise impacts. However, it is also apparent that the disciplined search protocols employed by the Applicant's biological contractors resulted in the location of a surprising number of tortoises within the Project area and that the locations were well-distributed therein. We believe that construction of WTG cluster 53-86 will be particularly problematic in creating direct tortoise mortality.

April 18, 2012

Subject: Comments on Searchlight Wind

BLM Las Vegas Field Office,

Attn: Gregory Helseth

4701 North Torrey Pines Drive

Las Vegas, NV 89130-2301

Submitted via E-mail: BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

Subject: Comments on the Draft Environmental Impact Statement ("DEIS") for the Searchlight Wind Energy Project (the "Project").

Dear Mr. Helseth

Please accept these comments, submitted on behalf of the Sierra Club on the Draft Environmental Impact Statement ("DEIS") for the Searchlight Wind Energy Project.

The Sierra Club is a national nonprofit organization of approximately 1.3 million members and supporters dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Sierra Club's concerns encompass protecting our public lands, wildlife, air and water while at the same time rapidly increasing our use of renewable energy to reduce global warming.

We submit these comments on behalf of our members, activists, staff, and members of the general public who are interested in protecting native species and their habitats as well as supporting the development of clean, renewable sources of electrical energy.

The development of renewable energy is a critical component of efforts to reduce pollution and climate-warming gases, avoid the worst consequences of global warming, and to assist in meeting needed emission reductions. We strongly support the development of renewable energy. However, like any project, proposed renewable energy projects should be thoughtfully planned to minimize impacts to the environment, and in particular to avoid impacts to sensitive species and habitat.

1. **The DEIS does not adequately analyze impacts to wildlife and habitat.**

I. Desert Tortoise.

The DEIS discloses that during surveys conducted on the project site, 122 tortoises were located on the project site within the narrow survey belts, indicating a population of 8.2 tortoises per square kilometer. This is a very high density considering the average density of tortoises found by the U.S. Fish and Wildlife Service in its 2010 population monitoring for the Piute-Eldorado Area of Critical Environmental Concern, which encircles the project site was 3.2 tortoises per kilometer.[1] The entire East Mojave Recovery Unit had only an average density of 3.6 tortoises per kilometer.[2] While technically the project area lies in "donut-hole" of undesignated tortoise habitat, it provides excellent tortoise habitat and is none-the-less critically important for the effort of recovering the Eastern Mojave population. In addition, the proposed project would fragment tortoise habitat and serve as a barrier to migration and gene-flow between the Eastern and Northeastern Mojave Recovery Units. The DEIS is inadequate in that the public literally has no information on which to base comments regarding the specific impacts of this specific project on the tortoise or how BLM proposes to avoid or mitigate those impacts.. The BLM should prepare a supplemental EIS to fill in the informational gaps for reviewers.

BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion). Appendix B-2: USFWS Biological Opinion contains the required desert tortoise mitigation measures and a discussion of how such mitigation would be effective.

We are concerns regarding plans to relocate or translocate desert tortoises from the site. No information is provided about possible recipient sites, their location, ability to absorb more animals and the permanency of the protection. To date, translocation of desert tortoise always results in "take" of tortoises and certainly does not aid in the recovery of the threatened species. Even "successful" translocation has been documented to have a 15-21% mortality[3]. Significant losses of tortoises

The DEIS included the mitigation measures that the BLM proposed in the Biological Assessment and submitted to the USFWS. BLM has completed consultation with the USFWS pursuant to Section 7 of the Endangered Species Act (For details refer to Section 5.2.2-U.S. Fish and Wildlife Service Section 7 Consultation and Appendix B-2: USFWS Biological Opinion). Mitigation measures proposed in the DEIS and in Appendix B-2: USFWS Biological Opinion do not include translocation of tortoise, rather it was proposed that tortoises would be moved out of harm's way during construction activities.

[1] U.S. Fish and Wildlife Service. 2010. Range-wide Monitoring of the Mojave Population of the Desert Tortoise – 2010 Annual Report. Table 6. Available at: http://www.fws.gov/nevada/desert_tortoise/documents/reports/2010/2010_DRAFT_Rangewide_Desert_Tortoise_Population_Monitoring.pdf .

[2] Ibid.

[3] Field, K.J., C. R. Tracy, P.A. Medica, R.W. Marlow, P.S. Corn 2007. Return to the Wild: Translocation as a Tool in Conservation of the Desert Tortoise (Gopherus agassizi). Biological Conservation 136: 232-245; and,

through a recent translocation effort in 2008 - the Fort Irwin translocation - resulted in over 20% mortality within the first year. Further monitoring has documented as of August 2009, over 250 desert tortoise (38%) have died in the translocation areas of Fort Irwin[4]. This translocation has resulted in further declines in the west Mojave recovery unit to the detriment of recovery of the species as a whole. The Scientific Advisory Committee of the U.S. Fish and Wildlife Service's Desert Tortoise Recovery Office has recently concluded that "translocation is fraught with long-term uncertainties, notwithstanding recent research showing short-term successes, and should not be considered lightly as a management option. When considered, translocation should be part of a strategic population augmentation program, targeted toward depleted populations in areas containing "good" habitat". If translocation must occur, the translocation plan needs to be thoroughly developed and vetted by knowledgeable tortoise science and management experts and provided for public review. Any plan must thoroughly address a number of essential desert tortoise issues including, but not limited to: the threats of disease, the capacity of the translocation site to support greater tortoise densities over the long-term, and sufficient monitoring of host tortoises with adaptive management measures triggered by the effects of translocation. Translocation of desert tortoise should be done in spring when possible.

II. Avian species.

The DEIS notes that golden eagles are potentially nesting in the nearby mountain regions encircling the project and through surveys identified at least three eagle nests within 4-miles of the project. We have concerns regarding both mortality to golden eagles from collisions with wind turbines, which have been well-documented at other wind energy sites. The DEIS makes no attempt to quantify the likely mortality, or describe how this mortality should be minimized or avoided.

We have additional concerns regarding loss of foraging habitat. The DEIS fails to present exactly how it will mitigate the loss of a substantial amount of foraging habitat for the golden eagle, either as a result of this project, or cumulatively as a result of projects within the Piute-Eldorado Valleys. The DEIS also fails to disclose the number of pairs of golden eagles that could be affected by the proposed project. Regardless of distance, a straight line view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involves calculation of view sheds using a three-dimensional GIS tool and development of buffers based on the modeling[5]. Also,

Nussear, K.E. 2004. Mechanistic investigation of the distributional limits of the desert tortoise *Gopherus agassizii*. PhD dissertation. University of Nevada, Reno. Pgs. 213.

[4] USFWS. 2009. Draft Biological Opinion for the Proposed Addition of Maneuver Training Lands at Fort Irwin, California (8-8-09-F-43R). Page 48.

[5] Camp, R.J., D.T. Sinton and R.L. Knight 1997. Viewsheds: a Complementary Management Approach to Buffer Zones. Wildlife Society Bulletin 25(3): 612-615; and Richardson and Miller. 1997.

Richardson and Miller 1997

Refer to Section -4.4.5.11Migratory Birds - Direct and Indirect Effects by Alternative for a discussion on the impacts to Eagles. Additionally, refer to Appendix B-4: Bird and Bat Conservation Strategy, which has been added to the EIS and includes a section on impacts to eagles.

As discussed in the DEIS, the Proposed Project would result in the loss of some foraging habitat for the golden eagle; however, the proportion of foraging habitat that would be lost due to the Proposed Project is small compared to the total amount of available foraging habitat within the Piute and Eldorado Valleys.

since golden eagles use only a small subset of their home territories during nesting for foraging, these essential areas may include the proposed project site, however the DEIS does not analyze this important factor of nesting success.

While bald eagles are unlikely to utilize the project area for long-term habitat, they utilize nearby Lakes Mead and Mojave during the winter. Nowhere does the BLM examine the likely or possible impacts on migrating or over-wintering bald eagles in this DEIS.

Refer to Section -4.4.5.11Migratory Birds - Direct and Indirect Effects by Alternative for a discussion on the impacts to Eagles. Additionally, refer to Appendix B-4: Bird and Bat Conservation Strategy, which has been added to the EIS and includes a section on impacts to eagles.

Because environmental review does not adequately identify or analyze impacts to eagles from the proposed project it is impossible for the BLM to ensure that the project is consistent with the Migratory Bird Treaty Act (16 U.S.C. § 701 *et seq.*) or the Bald and Golden Eagle Protection Act (16 U.S.C. § 668 et seq.), both of which prohibit take. To address this data and analysis disclosure deficiency, the BLM must prepare a supplemental EIS containing said analysis. Further, the BLM should require that the proponent pursue an incidental take permit under the BGEPA as part of the terms and conditions of receiving a ROW Permit.

The DEIS fails to adequately evaluate impacts to migratory birds, although the area sits within the Pacific Flyway, an important migratory route. Due to the magnitude of potential impacts on avian populations, additional avian studies are needed to identify more specifically migratory flyways for seasonal migrants that use the project area and could come into contact with the turbines.

The Avian and Bat Protection Plan should include requirements for shutting down turbines triggered by incidences of avian mortality and periods of high migration. This document should be included in the supplemental DEIS so that the public has an opportunity to provide comments.

III. Bighorn Sheep

The DEIS does not adequately address impacts to desert bighorn sheep. Bighorn sheep need large expanses of land to roam for seasonal migrations to and from important winter range. Impediments to movement of these animals will likely have negative impacts on big game populations that travel through the project area to reach other necessary areas of habitat. Additionally, it is well-documented that human disturbance in bighorn sheep habitat disrupts bighorn sheep and contributes to population decline. The DEIS does not adequately discuss impacts to bighorn sheep, stating that "project effects are anticipated to be minimal" because "the project would only occupy a small portion of the available migratory corridor between these mountain ranges leaving some connectivity." Nowhere does BLM provide information regarding its conclusions that the occupied portion of the corridor is "small," nor what "some connectivity" means. A supplemental DEIS should re-evaluate the impacts to habitat and the possible impacts to migration or movement corridors for this species, as well as the impacts of human disruption, and the Terrestrial Management Plan should address these issues.

Comment noted. Appendix B-3: Terrestrial Wildlife Plan has been added to the EIS and includes a risk assessment and mitigation measures for bighorn sheep.

IV. Bats

The DEIS did not adequately analyze potential impacts to bats from the Project. The DEIS provides only a general statement that the number of bats that could be injured or killed cannot be estimated, and that these impacts will be addressed through a not-yet-developed Avian and Bat Protection Plan. Bats are prone to many of the same threats as avian species and there are significant concerns regarding the impacts on wind development on bat populations, through barotrauma, lowered reproduction rates and collisions with wind turbines. The wind turbines proposed for the generation sites present an unusually high risk for bat mortality due to their height. We request that bat studies and surveys be completed, and these studies, along with a complete ABPP which includes operational stipulations such as shutting down wind turbines in response to incidents of bat mortality and during times of the year and on nights when conditions are most conducive to bat mortality, be included in a supplemental DEIS.

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy).

2. **The DEIS contains inadequate mitigation measures.**

The discussion of mitigation measures throughout the DEIS is inadequate as none of the proposed mitigation plans have been completed. The Emergency Response Plan, Waste Management Plan, Weed Control Plan, Facility Decommissioning Plan, Wildlife Mitigation and Monitoring Plan, Avian and Bat Protection Plan, Terrestrial Wildlife Plan for Bighorn sheep, Traffic Management Plan, Hazardous Materials Handling Management Program, Cactus and Yucca Salvage Plan, Stormwater Pollution Prevention Plan, and the Spill Prevention, Control, and Countermeasures Plan should be completed, and released for public review, as part of a supplemental EIS to allow the public to participate meaningfully in the decision making process—not deferred until after project approval. The discussion of mitigation in the section on wildlife describes a future "Wildlife Mitigation and Monitoring Plan" and a "Terrestrial Wildlife Plan." DEIS at 2-44 to 2-45; 4-33; 4-37. However, this discussion includes only a wish-list of possible measures which "may" be included in a final plan and does not describe what mechanisms would be used or what the practical consequences would be for preventing or minimizing damage to wildlife and habitat. There is no explanation how or whether these "Plans" to be developed at some future point actually would be effective in mitigating adverse environmental effects. The entire suite of mitigation described at 2-43 to 2-45 related to wildlife requires additional description and scientific citation and justification. Any plans to "mitigate" the acknowledge adverse effects on wildlife must be fully outlined with dates, actions, and rationale that can justify the actions. There should be a full description of where off-site mitigation will occur and a full description of on-site mitigation measures that will be adopted for the project site. We request that BLM prepare a supplemental DEIS once the plans are completed to satisfy NEPA by allowing the public a chance to review and provide comments.

Some plans such as the Traffic Management Plan or SWPPP need to be developed during the engineering phase of the project and may need approvals from other agencies; however, all basic elements of these plans are included in the EIS.

Plans that have been completed to data are included in this EIS including Appendix B-1: Weed Management Plan, Appendix B-2: USFWS Biological Opinion, Appendix B-3: Terrestrial Wildlife Plan, and Appendix B-4: Bird and Bat Conservation Strategy. Other plans would be included as a stipulation of the ROW grant. The Facility Decommissioning Plan, which will be developed 6 months prior to project closure.

We appreciate the opportunity to provide comments on this renewable energy project and look forward to continuing in the successful development of the Project as an interested stakeholders.

Comment noted.

Sincerely Yours,

5

Sarah K. Friedman

Sarah K. Friedman
Senior Campaign Representative
Beyond Coal Campaign
Sierra Club

Mr. Greg Helseth
Southern Nevada District
Bureau of Land Management
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

April 18, 2012

RE: Searchlight Wind Energy Project (NVN-084626 and NVN-086777)

Dear Mr. Helseth,

Thank you for the opportunity to provide comments on the Draft Environmental Impact Statement for the Searchlight Wind Energy Project. While generally supportive of renewable energy projects we do have some concerns with this project and specifically with the draft EIS.

The area where the project is located, in the high elevation areas to the west of Lake Mohave, is relatively well vegetated and appears to an active migratory route for many species of birds, including raptors. The past several years have been rather dry in Southern Nevada and hence surveys for birds during the last two or three years, especially for raptors may not be indicative of the number of birds expected to use this area during normal or wet years. This is particularly true of Golden Eagles, which are highly mobile and move over wide areas depending on food supply, primarily rabbits. In our opinion there is not enough information presented in this DEIS to allow an informed decision to be made wit regard to the impact of this project on either avian or bat species. The statement on p 4-36 that an avian and bat protection plan will be developed is not reassuring. The decision on whether to proceed with this project will be based on this DEIS, hence firm mitigation measures either need to be included in this document or there needs to be a further public process to develop the avian and bat protection plan. The DEIS is asking the public to just trust that appropriate actions will be taken to minimize impacts to birds and bats. Based on past experience with other wind energy projects in this country there is much reason to trust the wind energy industry to be serious about developing and implementing measures to protect birds and bats from the danger of rotating turbine blades.

We think it only appropriate that a further public process be undertaken to monitor, evaluate and develop a protection and mitigation plan for birds and bats that will be impacted by this project, should it be built.

Sincerely,

John E. Hiatt

John E. Hiatt
Conservation Chair, Red Rock Audubon Society
8180 Placid Street
Las Vegas, NV 89123
702-361-1171

RECEIVED BLM
SOUTHERN NEVADA
DISTRICT OFFICE
2012 APR 19 PM 12:00

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) has been developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy).

Private Citizen/Individual's Written Comments

-----Original Message-----
From: Al Burt [mailto:dcamiadca@yahoo.com]
Sent: Monday, January 23, 2012 10:48 AM
To: BLM_NV_SNDO_SearchlightWindEnergyEIS
Subject: Windmill Farms

Please consider the following list of public complaints about existing windmill farms - listed in order of number of complaints - before destroying the rural atmosphere of the Searchlight area. Don't forget the negative effect windmill farms will will have on lake Mojave.

PUBLIC OBJECTIONS TO WINDMILL FARMS: Cited from some 100 published news articles dated from July 2008 to January 2010 and arranged in order of frequency by William Burt dcamiadca@yahoo.com

Scenery Destruction: Windmill farms perched on mountain ridges, visible from up to 47 miles, "Obscure, Distort, and Detract From the Dignity of the Scenery" (quoting Frederick Law Olmsted) for an area of some 7074 square miles.

Health Hazard: Helicopter like thump-swish noise heard for miles around in a quiet rural setting causes migraine headaches, sleep deprivation, heart disease, and depression. Shadow flicker causes vertigo, panic attacks, and other wind turbine syndrome (WTS) effects.

Bird Hazard: Collisions with turbines kills birds and bats.

Property Value Decline: Caused by anticipated loss of quality of life.

Safety Hazard: Turbine fragments and Ice can fly off windmills in a strong wind.

Spiritual Grounds Violated: Would you want a 450 ft. high windmill attached to your church steeple?

Quality of Life Destroyed: Windmill farms have the same bad effect on a local area as any industrial encroachment.

Radar Interference: Air traffic control, air defense, and weather radars disrupted by windmill reflections.

Unreliable Energy Source: Backup energy source (coal, nat gas, or nuc) needed for windless times.

While anecdotal suggestions of health effects from wind turbine sound can be found online, No evidence exists regarding direct negative health effects associated with wind turbine sound in any peer reviewed, scientific papers or studies.

Impacts to birds and bats are disclosed in Section 4.4.5.11-Migratory Birds - Direct and Indirect Effects by Alternative and 4.4.5.8-Bats - Direct and Indirect Effects by Alternative, respectively. Impacts to Birds and Bats will be minimized by MM-BIO-5 Bird and Bat Conservation Strategy. Additionally, refer to Appendix B-4: Bird and Bat Conservation Strategy (formerly known as the Avian and Bat Protection Plan [ABPP], which has been added to the EIS.

The manufacturer has established recommended setback for safety that was an important contributing element into the design of the project layout. While ice formation on turbine blades is unlikely in this portion of southern Nevada, the safety setbacks provide protection against potential ice throw.

The document includes MM SAFE-5: Aeronautical Considerations. This mitigation measure requires the Applicant obtain FAA approval before construction is to begin.

Comment noted.

Tourism Adversely Affected: Would you visit Philadelphia to see its bus station?

Financial: Locals suffer increased cost of electricity and taxes in some cases.

Mercenary Priorities: Manufacturer's and installer's profits are often emphasized over environmental considerations.

Roads: Construction of required new roads and wear and tear of existing roads disrupts local traffic and causes pollution.

Phone Line Interference: Electromagnetic field emissions from new high power lines can cause static.

Wasted Power: Lack of adequate grid capacity can prevent the exporting of any surplus power.

Farm Land Disruption: Windmill farms and new transmission wires can fracture otherwise contiguous farm land.

National Grid System Upset: Existing grid not designed for sporadic windmill farm power inputs.

Motorist Distraction: Initial exposure to huge windmill farm sightings threatens driving concentration.

Lack of Local Citizen Input: Projects often started without adequate local hearings or comment periods.

Better Options: A single two reactor nuclear power plant, emitting harmless steam into the atmosphere, provides the same power as a 388 mile long windmill farm. Reducing energy waste by 3% per year by pricing in higher energy taxes would eliminate the need for increased energy supply for at least ten years.

Irreversibility: Tower removal and tree replacement not likely even if a better source of power is found later.

Air Flow Disruption: Rotating blades slow natural air flow and induce turbulence affecting downstream winds.

Construction Runoff: Tree removal along with 100 foot wide road construction pollutes local streams.

William Burt

Section 4.12-Socioeconomic Impacts, has been updated with a discussion regarding recreation and tourism.

Refer to Fiscal Impacts in Section 4.12-Socioeconomic Impacts.

Comment noted.

Refer to MM-TRAN-1, which states that a Traffic Management Plan would be prepared to address effects on local traffic.

Section 4.7-Transportation Impacts discloses that streets could receive wear from equipment and deliveries. Refer to MM TRAN-2: Repair Damaged Streets for a description of the mitigation for damaged streets.

No farmlands exist in the proposed project area.

Comments noted.

Refer to EIS Appendix A: Public Involvement for discussion of scoping, public materials, and the DEIS public comment period, and response to public comments for the proposed project.

The BLM will not typically analyze an alternative for a different technology when a right-of-way application is submitted for a specific technology (e.g., evaluate a photovoltaic alternative for a concentrated solar power application) because such an alternative does not respond to the BLM's purpose and need to consider an application for the authorized use of public lands for a specific renewable energy technology.

The proposed WTG locations were determined based on a number of factors, including vegetation density and type. As stated in Section 3.3.2.1-Watershed Boundaries and Water Quality, "Applicant would need to see that construction and use of access roads for the Proposed Project do not negatively affect water quantity and quality. These measures could be achieved by implementing a Clark County-approved stormwater protection plan during construction, O&M, and decommissioning of the Proposed Project." The SWPPP, which must identify BMPs and monitoring procedures that are suitable to site-specific conditions, is subject to review and approval by Clark County DAQ.

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: _____

Your Name: Jack & Carol Newell Name: _____

Address: Po Box 151 Address: _____

City/State/Zip: Searchlight Nv 89046 City/State/Zip: _____

Please check all that apply:

X Add my name to the mailing list for this project

___ Do not include my name on the mailing list

___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

My wife & I have live in Searchlight for About 35 years as most people here are retired & Elderly - No one I ~~[illegible]~~ know here want these dam wind mills here except Harry Reid only because he will make more money - He has never ~~[illegible]~~ done Anything for ~~[illegible]~~ Any one unless there money in it for Harry Reid - They will do nothing to help Nevada or Searchlight except Rest Money This Country does not have to make Eye Sore & make noise to drive you Nuts - Keep the dam things out of here unless you can put them All on Harry Reid property

Comment noted.

From: Diane Kendall [mailto:diakendall@gmail.com]
Sent: Saturday, February 25, 2012 12:12 PM
To: BLM_NV_SNDO_SearchlightWindEnergyEIS
Subject: Searchlight Wind Energy

Good Afternoon:

I would like to make sure that you receive list from the county commissioners of people who are in favor of the wind energy project.
There was a county commissioners meeting in August, 2010. If you are unable to obtain this list please let me know and I will go directly to Commission Steve Sisolak's office and obtain this list for you.

I believe that this a terrific project, which will enhance our community. I believe that this can be used as a educational devise for students, local property owners and tourists.

The county recently built a walking trail behind the community center with a gazebo facing Spirit Mountain. There are numerous signs around the walking trail educating the public about the area. Since we will be able to see a few of the wind generators from this

location, we could add additional educational signs about the project. Not only can this project educate the public but it will also bring much needed jobs to the American people.

I understand that it is hard for people to accept change, but it is time for change and new technology for power. This project could actually place Searchlight, Nevada on the map as being a forerunner of green energy.

Sincerely,

Diane Kendall
Cell: 702-279-9928
Home: 702-297-1750

Comments noted.

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: Searchlight Comm. Center

Your Name: Gary Komers Name: _____

Address: 500 State Highway 164 Address: _____

City/State/Zip: Searchlight, NV 89046 City/State/Zip: _____

Please check all that apply:

___ Add my name to the mailing list for this project

X Do not include my name on the mailing list

___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

(1). I support the Searchlight Wind Project

(2) I own two pieces of property in Searchlight, one is on Cottonwood Cove Rd.

(3). I was present at the BLM EIS meeting + listened to complaints about the aesthetics of this project to which they objected. I do not agree with these complaints on grounds that change occurs as a natural outcome of modernity and the need for renewable ~~energ~~ energy such as wind + Solar

(4). I also support this project because I trust the developers + BLM will respect the environment + ensure a safe project.

(5) Furthermore, it seems certain that economic benefits will accrue to Searchlight as a whole + far exceed any detrimental effects that could take place as a result of the project.

Comments noted.

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: ——

Your Name: CARL & JANE OVERY
Address: P.O. BOX 296
City/State/Zip: SEARCHLIGHT, NV 89046

Name:
Address:
City/State/Zip:

Please check all that apply:

___ Add my name to the mailing list for this project — my name is on the mailing list
___ Do not include my name on the mailing list
___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

3-17-2012

Comments:
My main concern, reference the wind-energy project for Searchlight, is reference the BLM Cultural Resource Report. As a historian, I would feel much better if you could assure, not only the citizens of Searchlight but the entire state, that every and all existing examinations for all possible prehistoric and historic archaeological sites have been completed and recorded. If additional, unknown or unrecorded cultural sites are located in the APE additional study should be conducted.

Your report shows that 35 previously recorded cultural resources have been identified within a 2-mile radius surrounding the SWEP area, 7sites,(five historic and two pre-historic) which are within or near APE.

Because it is impossible to have every step of the APE examined for cultural areas, it is my hope the BLM has put into place plans to investigate and complete additional smaller archeological block surveys at each and every tower site location and on and around any and all access points where land will be disturbed for the planned project as it was for the recently completed meteorological tower placement and the Lake Mead NRA fee station development.

I see by the report five sites, located within the proposed road routes have been determined to NRHP eligible, and as a citizen I am happy these sites have been located and reported, but still feel more sites are still out there. Sincerely: Jane B. Overy

Section 3.5-Cultural Resources of the EIS was modified to describe survey procedures in greater detail. An archaeological records search of a two-mile radius of the Searchlight Wind Energy Project was conducted prior to the archaeological inventory. All previously recorded sites were relocated and an intensive pedestrian survey of the area slated for ground disturbance was undertaken with an additional 200-foot buffer. It is standard procedure that if unanticipated cultural resources are encountered additional work would be conducted to mitigate impacts. Four of the 65 sites recorded in the project area have been determined eligible for listing on the National Register of Historic Places and mitigation measures have been determined to lessen the direct or indirect effects from the Project.

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: ____

Your Name: Russell Coon Name: ____

Address: Box 902 Address: ____

City/State/Zip: SEARCHLIGHT, NV 89046 City/State/Zip: ____

Please check all that apply:

✓ Add my name to the mailing list for this project

___ Do not include my name on the mailing list

___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

AS A RESIDENT OF SEARCHLIGHT I AM OPPOSED TO THE WIND ENERGY FARM FOR SEARCHLIGHT AND SURROUNDING AREAS.
THE INSTALLATION OF 87 COMMERICAL WIND TURBINS WOULD HAVE A VERY HARMFUL EFFECT, ON THE FLORA & FAUNA THAT CAN NEVER BE REPAIRED, THE DESERT CAN NEVER BE PUT BACK IN ANY WAY NEAR ORIGINAL CONDITION
THE EFFECT THESE TURBINS HAS ON PEOPLE HAS YET TO BE DETERMINED, THE MAGNATIC FIELD, THE NOISE, THE FLASHING, BUT IT IS ALL HARMFUL.
THE COST OF CONSTRUCTION IN THIS AREA WOULD BE VERY HIGH, CONPAIRED TO INSTALLATION ON SEAL FLAT LAND, LIKE THE EL DORADO VALLEY, WHERE THERE ARE, SUB-STATIONS, TRANS-MISSION LINES, VERY LITTLE VEGETITION OF ANY SORT, NO JOSHUA TREES, CACTI ECT, PLUS NO HOUSING NEAR BY.

Thank You

Russell Coon

702-379-7288

Comment noted. Impacts to biological resources and mitigation measures are discussed throughout Chapter 4.4-Biological Resources Impacts. APM-10 Site Rehabilitation and Facility Decommissioning Plan would provide for measure to reclaim the area after decommissioning.

2012 MAR 2' AM 10: 48

Place
Stamp
Here

Bureau of Land Management
Las Vegas Field Office
ATTN: Gregory Helseth
Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-2301

Please deposit your comment form into one of the boxes provided at the meeting or
Fold, tape top of form, and mail your comments to the address below:

REFER TO PICTURES OF BEFORE AND AFTER
WING GEN. ARE UP.
THEY WOULD BE A BLIGHT ON THE DESERT

RECEIVED
Bureau of Land Management
07:30
APR 03 2012
LAS VEGAS
FIELD OFFICE
Las Vegas, Nevada

March 23, 2012

Bureau of Land Management
Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-22301

Re: Duke Energy's Industrial Wind Project at Searchlight (Draft Enviornmental Impact Statement)

We feel that the proposed project would forever destroy the sensitive pristine and fragile desert landscape of the Mohave Desert/Searchlight/Eldorado Canyon area. This power generation project would cause extreme damage to the eco system and endangered species. It would also have a devastating devaluation effect on private property. We also feel this project would be at the expense of tourism and quality of life for the historic and thriving town and desert community of Searchlight, and would reduce the community and the route to Cottonwood Cove to nothing more than an unsightly Industrial Complex, (converting public lands to a private heavy industrial zone.) We feel that the BLM, (the stewards of our public lands, who are entrusted to preserve and protect) in good conscience, should not support or promote or agree to this project.

If this is such a good idea – let the investors and developers purchase the land and build the project with their dollars – not government grants/subsidies/guarantees/ taxpayer dollars and incentives. Please understand, we are not opposed to the development of power alternatives, but there certainly must be less sensitive and visible options available.

We are also enclosing a page from the March 2012 Sunset Magazine that spotlights the Mohave Desert as "1 of the most endangered lands in the west, due to large scale power projects that are displacing the rare desert wildlife. *Nature.org*"

For the above reasons, we believe the responsible decision on this project should be "No Project".

Thank you *very much* for considering our concerns.

Pat Ehli
Kim Ehli
HC 62, Box 353
Nelson, NV 89046

Impacts to biological resources and mitigation measures are discussed throughout Chapter 4.4-Biological Resources Impacts. APM-10 Site Rehabilitation and Facility Decommissioning Plan would provide for measure to reclaim the area after decommissioning.

To: BLM – Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-22301

Ironic Observation:

The Las Vegas Field Office of the BLM has recently been involved in RESOURCE MANAGEMENT PLAN REVISIONS (RMP's) and ENVIORNMENTAL IMPACT STATEMENTS (EIS) reviewing and reassessing existing (with possible closures) access roads, trails, allowable recreational uses / restrictions and activities in the BLM managed area of Eldorado Canyon/Searchlight/Mohave Desert. This review and the many dollars spent, including public input meetings (that seemed no more than a process) was to better protect (from the public) the sensitive and fragile areas of the desert.

Now, Ironically:

This same agency is actively pursuing and considering approval of an Industrial Wind Energy Project that would cover the same sensitive and fragile desert with hundreds of acres of concrete – not to mention huge, 400 foot noise making turbines and miles of excavated road systems for its construction and maintenance, damaging the desert in untold irrepairable ways.

Go figure...

Pat Ehli
Kim Ehli
HC 62, Box 353
Neslon, NV 89046

The BLM manages its lands for a variety of uses. These may include: protecting wildlife and plants, enabling recreational opportunities, allowing mining, and alternative energy development. The needs of some users may be in conflict with those of others.

The Las Vegas RMP, approved October 5 1998 is the governing document for this project, along with any other approved planning or programmatic document covering this field office or project type. The revised (Las Vegas) RMP Record of Decision is not anticipated until the summer of 2014.

Sunset magazine March 2012
See Below

BEST EDUCATION PROGRAM

WHAT DIDN'T HAPPEN HERE Kids whose only exposure to nature is a glimpse of a tree in a video game.
WHY IT'S A WINNER The **Wildlands Conservancy** uses its Southern California nature preserves to introduce the outdoors to the Justin Bieber generation—25,000 kids annually, many of whom come from families at or below poverty level.

Its size and emphasis on bringing nature to kids who otherwise wouldn't experience it make the **Wildlands Conservancy** one of the most ambitious environmental-ed programs anywhere. And the kids' reviews would do Yelp proud: "I learned many new things. First, we all went to pick one pretty rock that shines in the sun and we got to see animals. Thank you for everything."
TAKE A LOOK You don't have to be a kid to enjoy Wildlands' preserves. One good one? Wind Wolves Preserve, in Kern County, 95,000 acres where the San Joaquin Valley meets the Transverse Ranges. *Sat–Sun; free; wildlandsconservancy.org*

Frames help visitors focus on the beauty at Wind Wolves Preserve, near Bakersfield, CA.

BEST LAKE

WHAT DIDN'T HAPPEN HERE A shoreline jammed with houses, restaurants, and pubs. And motorboats.
WHY IT'S A WINNER **Independence Lake,** a half-hour north of Tahoe in the High Sierra, was formerly owned by NV Energy and once used to produce hydropower. It has nothing on its shores except Jeffrey pines, red firs, and some picnic tables. The Nature Conservancy and the Truckee Donner Land Trust fought off a private buyer to purchase 2,325 lakeside acres for $15 million.
TAKE A LOOK Off State 89, 50 minutes north of Truckee; follow signs to Independence Lake. *nature.org*

3 most endangered lands in the West

Save them now or they are gone forever

MOJAVE DESERT, CA Two goods collide: Will large-scale solar power projects displace the rare desert wildlife? *nature.org*

NORTH SHORE, OAHU, HI At the end of 2011, 27 percent of the North Shore—much of it agricultural lands perched above the Pacific—was up for sale. Will these be developed or stay green? *tpl.org/sunset*

TELLURIDE AND CRESTED BUTTE, CO Second-home growth and rural sprawl threaten to spoil these mountain towns' rugged backdrop. *tpl.org/sunset*

April --, 2012

BLM, Las Vegas Field Office
Attn: Greg Helseth, Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
ghelseth@blm.gov
BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

Dear Mr. Helseth:

I would like to submit these comments for the Draft Environmental Impact Statement (DEIS) for the Searchlight Wind Energy Project (NVN-084626). . I am opposed to the project for the following reasons:

1. The Purpose and Need Statement should incorporate a "need" to protect wildlife, visual resources, cultural resources, property values and public health.
2. The DEIS failed to consider a full range of alternatives. The National Environmental Policy Act requires the Bureau of Land Management to examine alternatives outside of the jurisdiction of the lead agency.
3. The BLM needs to consider a distributed generation alternative, a private lands alternative and an alternative that sites the project away from sensitive wildlife resources and private property.
4. The BLM needs to include an alternative that designates No Action and declares the site inappropriate for wind energy.
5. The DEIS states that the Las Vegas Resource Management Plan will not need to be amended to approve this project because the site was examined by the Wind Energy Programmatic Environmental Impact Statement in 2006, but the Wind PEIS contains very little specific information on the Searchlight Wind Project site. The Las Vegas Resource Management Plan is a very big land use plan and will need to be amended to examine the impacts of the project.
6. In some cases, the project would be located within a quarter mile of private property. The DEIS does a poor job of evaluating public health impacts such as Wind Turbine Syndrome and effects from dust stirred up during construction.
7. The project would damage the property values of local residents.
8. The project would be located in very close proximity to Lake Mead National Recreation Area and the Colorado River which has a unique and important avian fauna. It is a fly-way for migratory birds. The numbers from the Altamont Pass wind farms in California prove that wind energy injures and kills avian fauna. The nearest turbines would be just 8 miles from the Colorado River.
9. Lake Mead is an essential area for wintering bald eagles and golden eagle nests have been found within 5 miles of the project. Golden eagles are being killed by wind turbines all over North America.
10. Surveys for the project have stated that the desert tortoise population numbers are about 13 adults per square mile which is significant. The project will fragment the habitat with large wind turbine footprints and about 30 new miles of roads, many of which will be 36 feet wide. Mitigation proposals are no sufficient to prevent impacts to the species.
11. The project would block linkage and movement corridors for desert bighorn sheep.

1) The EIS's purpose and need statement complies with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instructional Memorandum 2011-059. The purpose and need statement appropriately integrates Congress's goal that the Secretary of the Interior should seek to approve renewable energy projects on the public lands; direction from Secretarial Order 3285A1 (March 11, 2009, amended February 22, 2010), which establishes the development of environmentally responsible renewable energy as a priority for the Department of the Interior; and the BLM's responsibility under FLPMA to manage the public lands for multiple use, taking into account the long-term needs of future generations for renewable and non-renewable resources.

2) The BLM developed a purpose and need statement and considered a range of reasonable alternatives consistent with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instruction Memorandum 2011-059. The two action alternatives satisfy the purpose and need because they fulfill BLM's obligation to consider the ROW applications under FLPMA and NEPA and because they are consistent with other applicable federal mandates and renewable energy policies and goals.

3) The BLM does not need to analyze in detail an alternative for distributed generation because such an alternative would not respond to the purpose and need to consider an application for the authorized use of public lands for a specific renewable energy technology.

4) Wind Energy facilities must be located where wind resources are available and cannot be limited to "brownfield" sites. The BLM will not typically analyze a non-Federal land alternative for a right-of-way application on public lands because such an alternative does not respond to the BLM's purpose and need to consider an application for the authorized use of public lands for renewable energy development.

5) BLM evaluated a No Action alternative throughout the document.

6) A Dust Control Permit is required from the DAQ prior to start of construction projects in Clark County. The permit will contain measures to reduce fugitive dust.

7) Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. A literature review on property value impacts has been added in Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

12. Most of the biological resource mitigation for the project is deferred and there is little information on how the applicant will mitigate impacts to bats, burrowing owls, Gila monsters, rare plants, etc.
13. The DEIS has not evaluated all of the cultural resources located on the site.
14. The project will have negative impacts on the visual resources in the area. It will be visible from Lake Mead National Recreation Area, the Mojave National Preserves and wilderness areas adjacent to the site. The project will also have red flashing aviation lights activated for the entire night. The project will be a visual disturbance to the local residents of the area which could impact the tourism economy.

In Conclusion

I would like to request that BLM adopt a No Action Alternative for this project and to designate the area inappropriate for wind energy.

Sincerely,

Heidi Spencer
5850 Tuscan Hill Court
Las Vegas, NV 89141

8) Comment noted.

9) Impacts to golden eagles are discussed in Section 4.4.5.11-Migratory Birds - Direct and Indirect Effects by Alternative and Appendix B-4: Bird and Bat Conservation Strategy, which has be added to the EIS.

10) The USFWS determines appropriate mitigation measures in the Biological Opinion, which is include as Appendix B-2: USFWS Biological Opinion.

11) Impacts to desert bighorn sheep are discussed in Section4.4.5.14-Game - Direct and Indirect Effects by Alternative. Also refer to Appendix B-3: Terrestrial Wildlife Plan, which has been added to the EIS. The project would only occupy a small portion of the available migratory corridor between these mountain ranges leaving some connectivity between the ranges; therefore, the project effects are anticipated to be minimal.

12) A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy).

Burring owl mitigation is discussed under MM-BIO-6. Mitigation for Gila monsters is discussed under MM-BIO-4 and in Appendix B-3: Terrestrial Wildlife Plan. No rare plants were found in the survey area; therefore, no mitigation is required.

13) An intensive cultural resources inventory of the Area of Potential Effect (APE) (i.e. activity areas surrounded by a large buffer) was performed. No disturbance activities would occur outside of the 200-foot buffer area. Cultural resources outside of the APE would not be impacted. Any modifications or changes to the APE would trigger additional cultural resource inventories. All sites identified during the Class III inventory have been evaluated for eligibility to the National Register of Historic Places.

14) Impacts are disclosed in Section 4.0-Visual Resources Impacts.

Sincerely,

Name Gary Carlson

Address 8326 GRESHAM DR.
LAS VEGAS, NV. 89123

Respectfully Submitted,

Donna Charpied

--
Donna Charpied, Executive Director
Desert Protection Society (Formerly Citizens for the Chuckwalla Valley)

Jared Fuller
Provo, UT

Sincerely,

Name

Address 2757 Salem Dr.
Henderson, NV 89052

From: Cheryl Cross [mailto:searchlightnuggetcasino@yahoo.com]
Sent: Wednesday, April 18, 2012 8:33 PM
To: BLM_NV_SNDO_SearchlightWindEnergyEIS
Subject: Fw: Searchlight Wind Energy Project from Ms Verlie Doing

----- Forwarded Message -----
From: Cheryl Cross <searchlightnuggetcasino@yahoo.com>
To: "blm_nv_searchlightwindenergyEIS@blm.gov" <blm_nv_searchlightwindenergyEIS@blm.gov>
Sent: Wednesday, April 18, 2012 8:32 PM
Subject: Searchlight Wind Energy Project from Ms Verlie Doing

Gregory Helseth:

My husband and I came to Searchlight June 30,1967. This has been a great place to live.
We have an active relationship with Clark County, our own Town Board to work with a great
Senior Center, 24 units of Senior housing, and an active functioning Non-Denominational Church.
The estimated 1000 residents who live here enjoy great recreation - we are 13 miles from
Cottonwood Cove on Lake Mohave - good fishing, boating, and water sports.
Our children attend 5 grades at Harry Reid Elementary school, then they are bussed into
Boulder City for middle and high school. This is a good place to live for all of us. We enjoy an
altitude of 3500 ft. which means cooler temperature, winter and summer. The air is clean most
of the time - winds produce some dust but not too bad for most people.
There is no doubt that our property values will go down drastically when these are in place.
We have enjoyed peace and tranquility for a long time. PLEASE SIMPLY SAY NO!!
I am also sending a list of comments we have come up with and consider worth your
attention - they come from our study of the Draft of the DEIS.

Mrs. Verlie G. Doing
100 N. Highway 95
Searchlight, Nv. 89046

* Add my name to the mailing list for this project

Comments noted.

Sincerely,

Name Paul Stirk
Address 2755 Saigon Dr.
Henderson, Nv.
89052

Sincerely,

Name Charmagne Poyo
Address 220 E. Shelbourne Ave.
Las Vegas, NV. 89123

Sincerely,

Name PAUL COUTURE
Address 220 E. SHELBOURNE AVE
LAS VEGAS NV 89123

Sincerely,

Susan Vermillion - Mugge

Name
Address SUSAN VERMILLION - MUGGE
8766 LISA LANE
LAS VEGAS, NV. 89113

I own acreage in this area. The proposed wind farm is only 1000 feet from my property. If this wind farm with their noisy turbines is allowed to be built, you will have very effectively ruined my property for any future sale or for me to build on this property. No one will buy this land or build on it when these wind turbines are less than a 1000 feet away. If this goes through you will have made my property worthless.

Sincerely,

Stephen Mugge

Name
Address STEPHEN MUGGE
8766 LISA LANE
LAS VEGAS, NV. 89113

Sincerely,

Name Ashley Ford
Address 710 Hermosa Palms Las Vegas, NV 89123

Comments noted. Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. A literature review on property value impacts has been added in Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines

Sincerely,

Name
Address

Matthew Morris
3800 S Pinecrest St.
LV NV 89101

Sincerely,

Name Lindsay Klimitz
Address
1688 Mountain Song Ct
Henderson, NV 89074

Sincerely,

Name
Address
Paul Arroyo
1584 Silver Glen
LV NV 89123

Sincerely,

Name
Address
Nathanrel Ross
1688 mountainsong ct.
Henderson, NV 89074

I would like to request that BLM adopt a No Action Alternative for this project and to designate the area inappropriate for wind energy.

Sincerely,

Name ARTHUR J MCFARLAND
Address 3093 C PINEHURST DRIVE LAS VEGAS NV 89109

Sincerely,

Name Raven Esty
Address 7660 Hampton willows lane
Las Vegas NV 89113

Sincerely,

Marvin Fribeck

Name
Address
5 SARDANA
HENDERSON, NV 89014

Sincerely,

Name ELIOT ALPER
Address 2535 EXECUTIVE TERMINAL DR., STE 300
Henderson, NV 89052

Thomas Casey
PO Box 1303
Searchlight, NV 89046

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: SEARCHLIGHT COMMUNITY CENTER

Your Name: JERRY CUROW Name:

Address: 505 E COTTONWOOD COVE RD Address:

City/State/Zip: SEARCHLIGHT NV 89046 0947 City/State/Zip:

E-MAIL JCUROW1@YAHOO.COM

Please check all that apply:

X Add my name to the ~~mailing~~ E MAIL list for this project

___ Do not include my name on the mailing list

___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

I'M WRITING YOU TO URGE YOU TO ISSUE A LAND USE PERMIT TO SEARCHLIGHT WIND ENERGY PROJECT. I FEEL CLEAN ENERGY IS THE FUTURE OF OUR COUNTRY. I LIVE HERE IN SEARCHLIGHT, AND MOST OF THE OPPOSITION FOR THIS PROJECT IS UNFOUNDED. IT'S EITHER BECAUSE OF SEFISH REASONS OR REASONS THAT ARE PERCEIVED. AS FAR AS I'M CONCERNED ALL NEW BUILDING BUILT SHOULD BE SOLARIZED OR WIND POWERED FOR THEIR ENERGY USE

IF ALL PROJECTS FOR CLEAN ENERGY TAKE AS LONG FOR APPROVAL AS THIS ONE, THE UNITED STATES WILL BE DEPENDANT ON FOREIGN COUNTRIES FOR CLEAN ENERGY FOR EVER

AS MUCH WIND AS THERE IN HERE AND ALONG THE RIVER THERE SHOULD BE WIND GENERATORS FOR VEGAS TO LAUGHLIN

PLEASE MOVE FORWARD ON THIS ISSUE NOW

SINCERELY
Jerry Curow

Comments noted.

From: Shaun Gonzales [mailto:shaun.gonzales@gmail.com]
Sent: Sunday, April 08, 2012 7:44 PM
To: BLM_NV_SNDO_SearchlightWindEnergyEIS
Subject: Comments on Searchlight Wind Energy Project

Please accept the attached comments on the Searchlight Wind Energy Project draft EIS.

Thank you for your time and consideration,
-shaun gonzales

BLM Las Vegas Field Office
Attn: Gregory Helseth
4701 North Torrey Pines Drive
Las Vegas, NV 89130–2301

Dear Mr. Gregory Helseth

Please accept the following comments in response to the draft environmental impact statement (EIS) for the Searchlight Wind Energy project. I strongly urge BLM to select the No Action alternative until Duke Energy (the project proponent) can reduce or alter the layout of the project to reduce impacts on wildlife and visual resources, particularly in the southern portion of the project.

Project Alternatives

BLM should conduct due diligence to determine whether a smaller or reconfigured project

BLM considered a reasonable range of alternatives consistent with NEPA and BLM policies and procedures. The two action alternatives satisfy the purpose and need in that they fulfill BLM's obligation to consider the ROW application, meet federal renewable energy mandates, and respond to impacts identified in the NEPA analysis. The Applicant has provided BLM with an economic determination that any project generating less than 200 MWs/and or less than 87 turbines is uneconomic due primarily to transmission line costs.

footprint is feasible for the project, since the current preferred alternative – 87 wind turbines—will have significant impacts on the desert tortoise population in the El Dorado-Piute Valley area. The EIS should also lay out in more detail the anticipated impacts on the desert tortoise population, designated relocation sites, and mitigation requirements.

The draft EIS asserts that the 87 wind turbine layout is the smallest project possible while maintaining economic feasibility, but other wind energy projects approved or under evaluation by BLM in similar terrain and using nearly identical wind turbines are significantly smaller. The statement in the EIS that transmission line upgrades are included in the project costs is also ambiguous, since most transmission line costs are passed along to the ratepayer, and not project proponents. Furthermore, a project proponents desired electricity generation capacity—200 megawatts in this case—should not limit consideration of alternatives, and previously approved renewable energy projects have been scaled down to mitigate impacts.

As a comparison indicating likely inaccuracies in the economic feasibility assessment, the proposed Granite Wind energy facility near Apple Valley, California would be built on similar, if not more difficult terrain than the Searchlight project, using similar turbines and construction techniques, and involving a new transmission line. Yet the Granite Wind project is no more than 28 turbines, nearly a third the size of the Searchlight project.

Noise

The Draft EIS should also evaluate the impacts of noise during operation of the wind facility on wildlife. Specifically, wind turbines can emit noise levels at 50dBA just 300 feet from the blades, and 40dBA up to 2,000 feet away. According to Fish and Wildlife Service research compilation, grassland and woodland species showed decline at noise levels as low as 35 dBA.[1] The draft EIS should evaluate the direct and indirect effects of such a decline in bird populations in the project area during operation of the project, if it is approved.

A more detailed discussion on noise impacts to wildlife has been included in Section 4.4.4-Wildlife. Direct and indirect effects to avian species are included in Section 4.4-Biological Resources Impacts.

Land Disturbance

For the sake of special status plant and wildlife mitigation, the BLM should consider "temporary" disturbances as equivalent to permanent, since special status species almost certainly will not be able to return to the "temporarily" disturbed land for the life of the project. Disturbances of desert habitat are known to take decades for full native vegetation to return. Habitat mitigation requirements should be increased accordingly.

Comment noted.

Wildlife

Draft EIS does not sufficiently evaluate effects of the project on the desert tortoise, including relocation of tortoises displaced from burrows. The draft EIS asserts that there will be no residual impacts on tortoises, which is inaccurate, since increased road traffic by project operators and recreation users is likely to expose the tortoise to increased risk.

Impacts to desert tortoise resulting from increases maintenance and OHV traffic is discussed in Section 4.4.5.2-Desert Tortoise – Direct and Indirect Impacts by Alternatives.

Despite the plans to limit vehicle speed on the new roads, many drivers are unlikely to heed the speed limits on back country roads and given the lack of law enforcement. This will pose a dramatically higher threat to the tortoise in the area.

Comment noted.

Cumulative impact analysis should consider other projects in the Mojave Desert ecosystem that would impact special status plant and wildlife species. Although the cumulative impact analysis considers projects in the immediate vicinity, the multitude of land-intensive energy applications throughout BLM lands in California, Arizona and Nevada will challenge the survival of many species that the Department of Interior is responsible for recovering. The cumulative impacts analysis takes a look at three wind energy applications, but ignores solar projects to the west in the Ivanpah Valley, and several other solar and wind projects in the region.

Section 4.17.5-Potential Cumulative Impacts was revised to include the Searchlight Solar Project and remove project that are no longer viable. Other projects that commenter has mention were outside of the area of cumulative effect as defined by resource in Chapter 3.

The Draft EIS should also consider whether the southern portion of the project will become a population "sink" for tortoises in the El-Dorado-Piute Valley ACEC, if tortoises to the south continually fill habitat with high mortality from road traffic, increased predation, etc.

Comment noted.

Project Benefits

In the analysis of short term and long-term productivity of the environment, the Draft EIS makes the assertion that the project would provide the benefit of reducing our dependence on fossil fuels. However, wind energy projects require natural gas peaker plants due to the intermittency of wind energy generation, and lack of productivity during peak demand. The construction of the turbines also requires carbon-emission intensive processes to manufacture steel, cement, and copper. Unless the EIS intends to thoroughly analyst the emissions created by the project and required energy peaker facilities, the statement should be removed from the EIS.

Comment noted.

Visual Resources

The Draft EIS is misleading in the way that it characterizes visual impacts, which are not mentioned in the cumulative impacts analysis. The installation of 87 turbines and towers over 420 feet high, with a large rotor sweep will change the character of the surrounding mountains and valleys.

The definition of Visual Resources Class III is listed as follows:

Class III Objective. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

Please refer to Section 4.9-Visual Resources Impacts for discussion of the contrast rating analysis, updated visual simulations, and conformance to the Class II VRM objectives. The contrast ratings and visual simulations were reviewed and approved by BLM visual resources specialists in accordance with VRM BLM Manual Handbook H-8431-1.

The Draft EIS is inaccurate in its conclusion that the proposed project would be in conformance with Class III objectives, since the height and rotor sweep of the 87 turbines would dramatically alter the viewshed, and their presence would dominate the view as a stark contrast to the natural environment, compared to the lower profile of existing structures, or even a smaller number of turbines. The impact would particularly be high for viewers along I-95 in the southern end of the project (turbines 53-87 in the 87 WTG layout), where the density of the turbines in view would override the natural characteristics of the landscape.

Comment noted.

The southern portion of the wind project is also inconsistent with visual resource management principles considering the number of people that view this area travelling along I-95, with nearly complete view of turbines 53-87. The turbines would also be in view for miles along the interstate, and are not consistent with the line, form or color of the existing landscape. As an example of the dominating presence these turbines will impose, consider that there will be about as many man-made structures taller than 420 feet in view of travelers along I-95 near Searchlight as there are in the city of Las Vegas. This is more than "moderate" changes to the landscape scenery, and an additional argument for evaluating another alternative (reduced number of turbines or different layout).

Thank you for considering these comments.

Sincerely,
Shaun Gonzales

---

[1] The Effects of Noise on Wildlife, USFWS, online, *www.fws.gov/windenergy/docs/**Noise**.pdf*

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: _____

Your Name: Tamara Van Vranken Name: _____

Address: P.O. Box 97232 Address: _____

City/State/Zip: Las Vegas, NV 89193 City/State/Zip: _____

Please check all that apply:

___ Add my name to the mailing list for this project

___ Do not include my name on the mailing list

X Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

To be frank, I am very upset that you would even consider such a massive DESTRUCTIVE project like this!! The infrastructure alone would destroy the mighty ancient Indian sights and flora and fauna that your organization, by your Mission Statement, is meant to protect and preserve! The turbines themselves would kill our precious eagles and hawks being struck by those 130 ft. blades. Bats trying to avoid those blades getting the "Bends" as the vortex sucks the life out of them! For the community being "helped" by the project, finds an industrial wasteland of noise, blade "strobing", plummeting real estate, followed by tourism to Cottonwood eliminated from Nevada history, all for "GREED" energy tax credits! I would like to see a supplemental DEIS

Tamara Van Vranken

Comments noted.

to explain how to mitigate the negative impact of this proposal?

Please deposit your comment form into one of the boxes provided at the meeting or
Fold, tape top of form, and mail your comments to the address below:

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: SEARCHLIGHT TOWNSHIP
Your Name: LESLIE COON Name:
Address: 475 ORLANDO ST. Mail Address: P.O. BOX 1237
City/State/Zip: SEARCHLIGHT, NV 89046 City/State/Zip:

Please check all that apply:

X Add my name to the mailing list for this project
___ Do not include my name on the mailing list
___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:
Searchlight residents are not opposed to renewable energy, but there should be a solar farm instead of a windmill farm. The windmills will be obsolete in a few years and will be abandoned by the installers. They are an eye sore! Our property values will be ruined! Our beautiful desert will be destroyed! I prefer the cottontails, owls, hawks, eagles and coyotes over a view of windmills.
The windmills should not be this close to Searchlight. Too close to our homes, school and recreation areas. Biggest issue is the location, location, location !!!
And there will be no benefits for Searchlight.
We do not want the windmills near our town.

Comments noted.

Unfortunately, you bureaucrats don't care about the citizens' voice or our desert. All you care about is lining your ~~pur~~ pockets with money! That is really sad for you and the citizens. Our government wonders why the citizens are so unhappy with them. Several reasons have all ready been given. Politicans have become crooks after they get elected, then care about money and not their constituents. I think citizens are really, really, really tired of the cycle.

Please revoke the permits you have issued for the Searchlight Windmill Farm. We do not want them in Searchlight.

Please deposit your comment form into one of the boxes provided at the meeting or
Fold, tape top of form, and mail your comments to the address below:

Bureau of Land Management
Las Vegas Field Office
ATTN: Gregory Helseth
Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130-2301

RECEIVED BLM
SOUTHERN NEVADA
DISTRICT OFFICE
2012 APR 13 AM 10:45

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: Searchlight Nevada N.V.

Your Name: Bruce Dobbie Name: _____

Address: P.O. BOX 582 Address: _____

City/State/Zip: Cal-Nev-Ariz City/State/Zip: _____

Please check all that apply:

___ Add my name to the mailing list for this project
___ Do not include my name on the mailing list
___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

1- Water is precious to any community. In the three communities affected by this project water is limited by these aquifers, to the extent that they have been tapped over the years to a concern by the residence. In my opeonion if a hundred thousand tons o concrete is to be mixed, how much water will be required times 80 plus wind generators. It must be understood that the water in the ground is all we have.

2- The pedestals that mount these generators need a level foundation for the cement pour ~~these~~ these areas of consideration need to be blasted by explosives cause this is a hard rock mining area and considerable damage to home will occur. Its probable that the blasting will fisher the aquifers and water will escape to god knows where.

Refer to Section 4.3.2-Direct and Indirect Effects by Alternative, which reads, "The concrete batch plant is expected to use approximately 1.5 acre-feet of water to make approximately 40,000 cubic yards of concrete for construction of WTG foundations, substations, and the O&M building. This is based on the estimated use of approximately 4,000 gallons of water per day over a period of about 5 months." This averages approximately 6 gallons per minute over a 12-hour work day.

From: Cheryl Cross [mailto:searchlightnuggetcasino@yahoo.com]
Sent: Wednesday, April 18, 2012 6:58 PM
To: BLM_NV_SNDO_SearchlightWindEnergyEIS
Subject: Wind Energy project

Our beautiful views will be gone for ever. Our beautiful quiet nights will now be very loud.
Also, if we are forced with these windmills, shouldn't we benefit with some power?
The community isn't getting anything and giving up so much in return.
Also, in the future our landscape will never be the same and these huge things will always be there as skeletons when new technology replaces them.

Reggie Doing
P.O.Box 1433
Searchlight, Nv. 89046

Refer to Section 4.9-Visual Impacts for a discussion of visual impacts. Refer to Section 4.10-Noise Impacts for a discussion of noise impacts. Refer to Section 4.12-Socioeconomic Impacts for a discussion on the benefits of the proposed project. As a stipulation of the ROW Grant, the BLM will require a financial bond as described in Appendix C: BLM Wind Energy Development Program Policies and BMPs, page A-4) and a Facility Rehabilitation and Decommissioning Plan as described under APM-10.

From: Cheryl Cross [mailto:searchlightnuggetcasino@yahoo.com]
Sent: Wednesday, April 18, 2012 7:05 PM
To: BLM_NV_SNDO_SearchlightWindEnergyEIS
Subject: Draft Environmental Impact Statement

I've lived in Searchlight over 40 years. The desert landscape - the mountains mean the world to me.
These windmills are going to greatly impact Searchlight, the people who live here and the tourists coming
through our area.
Please don't let this project be approved.

Riley G. Doing

Comments noted.

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

RECEIVED BLM APR 13 SOUTHERN NEVADA DISTRICT OFFICE

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: ——

Your Name: _____ Name: ROBERT C FURTEK

Address: _____ Address: 2621 BELLO DR

City/State/Zip: _____ City/State/Zip: N LAS VEGAS, NV 89030

Please check all that apply:

___ Add my name to the mailing list for this project
___ Do not include my name on the mailing list
___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

Wildlife Impacts:
① The area is frequented by birds of prey such as Golden Eagle, Harris's Hawk, Coopers Hawk, Red-Tailed Hawk, and Turkey Vulture. Many species migrate thru this area as well as nest there. The Bald & Golden Eagle Protection Act would apply. At Altamont Pass 50-75 Golden Eagles per year are killed. With 35 years of operation, some 2,300 will be killed from the current propeller style.
② 21 of 23 bat species found in NV have been documented in the southern NV area.
③ Area is a migration route for desert bighorn sheep.
④ Many species of lizards, desert rodents & desert tortoise (NV's state reptile) occupy the area.

Conflict of Interest:
The wind industry routinely uses false or incomplete EIRs to white-wash the detrimental impacts of propeller wind turbines.

Page 1

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy). The decision as to whether an eagle take permit is being requested is between the USFWS and Searchlight Wind Energy, LLC.

Acoustic monitoring of the area was conducted for two years and species documented in the project area are discussed in Section 3.4.4.2-Existing Environment under Bats.

Bighorn sheep use of the project area is discussed in Section 3.4-Biological Resources.

This comment is consistent with the information presented in Section 3.4.3.2-Existing Environment.

Comment noted.

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: ——

Your Name: _____ Name: ROBERT C FURTEK

Address: _____ Address: 26021 BELLO DR

City/State/Zip: _____ City/State/Zip: N LAS VEGAS, NV 89030

Please check all that apply:

___ Add my name to the mailing list for this project
___ Do not include my name on the mailing list
___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

They kill nesting + migrating birds from Canada and Alaska. Many biologists with FWS, USDA, NDOW are qualified to do surveys but are silenced by policies dictated by the industry according to Jim Wiegand, Biologist, UC Berkeley.

Other Concerns:

① Gas line Road is going to be buried only 18-24 inches deep creating a rupture + explosion as occurred at San Bruno, CA a PG+E gas line.

② Current prop wind turbines are archaic, In the works are wind turbine designs that will not kill birds. Vertical Shaft Wind Turbines built by Environmental Technologies, LLC are only 111 feet tall and run silent. Before proceeding with this wind farm, more investigation into best Technology needs to be done.

Page 2

The Applicant will be required to coordinate with Southwest Gas should there be any pipeline crossings, e.g., roads, underground electrical collection systems, etc. The result of the coordination would be a legally binding agreement that such crossings would meet Southwest Gas-provided standards for engineering and applicable material requirements to ensure the safe and continued operation of the gas line.

Comment noted.

April 17, 2012

BLM, Las Vegas Field Office
Attn: Greg Helseth, Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
ghelseth@blm.gov
BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

COMMENTS ON SEARCHLIGHT WIND ENERGY RIGHT-OF-WAY APPLICATION

Dear Mr. Helseth:

As a concerned citizen, a resident of Southern Nevada, and a landowner in the impacted Searchlight area, I am respectfully requesting that the Bureau of Land Management DENY the right-of-way application submitted by the Searchlight Wind Energy Project (NVN-084626).

After reviewing the DEIS for this project, I am convinced that approving the application would violate both commonsense and the BLM's obligation to the citizens of the United States to "sustain the health, diversity, and productivity of America's public lands for the use and enjoyment of present and future generations. " The wind farm project will be nothing short of a death sentence, both economically and biologically, for the Mohave Desert and the town of Searchlight.

The only conclusion the BLM should reach for this project is that of an outright denial of the ROW application!

Summary

1. This document states there are no "Environmental Justice Issues". The turbine noise, ruining the pristine view shed, the amount of water to be used for this project to construct the bases of the turbines is not responsible environmental stewardship. This impacts local tourism, retired residents, and future development to the community.

   Comment noted.

2. This document states that the project is beneficial. No one wants an industrial wind farm in their backyard. This is not "beneficial" to Searchlight, a small, rural community that supports outdoor recreation. Even the wind rates are questionable.

   Comment noted.

3. Nearly all of the statistics used in the DEIS are outdated and/or obsolete. Current (2010) census data, as well as recent socioeconomic trends in population and real estate prices are readily available and should be used. The outdated data does not provide an accurate picture of the local population and economy, which has been more drastically-affected by the recession than other areas of the United States.

   Section 4.12-Socioeconomics has been updated to use 2010 Census.

4. Several parcels on Oregon Trail Road were left out of the evaluation process. These properties are the closest to the turbines and will, therefore, suffer the most from the effects. A fair and accurate report can NOT be created without including these parcels!

   All private property information was obtained from the BLM and confirmed with the Clark County Assessor's office. All properties on Oregon Trail Road were included in the EIS. Additionally, it was brought to the BLM's attention that the VTN map presented at public scoping meetings did not include this information.

5. The applicant has a long history of leaving citizens and local governments "holding the bag" for road repairs, taxes, and other costs that were originally touted as "benefits" to the community. Although the BLM's main focus is the government-owned land, as a taxpayer-supported agency it also has an obligation to protect its employer – the citizens of the United States!

6. The applicant does not have a purchase agreement, or even a letter-of-intent, from any utility to buy the power it proposes to generate. This is a classic case of "if you build it, they might come" mentality! The applicant proposes to spend billions of dollars, including taxpayer funds for the BLM's role in this project, to generate electricity no one plans to buy. The original proposal included sending the power to California (NOT to Nevada, so no benefits to us there, either). However, California recently announced it will no longer need to purchase renewable energy from outside the state and will, in fact, be SELLING power it generates!

7. Searchlight depends on a VOLUNTEER fire department, ill-equipped to handle large industrial turbine caused fires, which can quickly spread over thousands of acres of rough terrain. The nearest BLM Fire Station is at Hole in the Wall, in California. Clark County has small fire stations in Laughlin and Boulder City. None of these facilities is less than 45 minutes to one hour away under ideal traffic conditions. Under the often dry, windy conditions present, the entire town and nearby residences could be wiped out before adequate fire-fighting capacity arrived.

I respectfully request that the BLM deny the right-of-way application submitted by the Searchlight Wind Energy Project (NVN-084626). This project is bad for the environment, bad for the citizens, and

Respectfully,

Ellen Ross
214 E. Shelbourne Avenue
Las Vegas, NV 89123

Comment noted.

Comment noted.

As described in 4.14-Health and Human Safety Impacts; To reduce fire risk, the Applicant would construct a 20-foot-wide firebreak on the exterior of the perimeter fencing surrounding the O&M building and the proposed substations, in addition to a 20-foot wide firebreak surrounding individual WTG locations (APM-7). Shrubs and other large vegetation would be removed from the firebreak. Grading or discing would maintain the firebreak.

The electrical equipment enclosures that would house the transformers would be either metal or concrete structures. Any fire that could potentially occur would be contained within the structures, which would be designed to meet National Electrical Manufacturers Association standards for electrical enclosures (APM-14).The EIS contained a detailed description of the potential effects in4.14-Health and Human Safety Impacts.

Additionally, mitigation measure included as an inherent element of the project, APM-7, is for development and implementation of an Emergency Response Plan that would include fire suppression and control.

SECTION 1

Page 1-6, Para. 1.3.1, line 35: The Searchlight wind farm is not representative of *environmentally responsible renewable energy*. There is nothing environmentally responsible about siting a wind farm in pristine desert adjacent to a national recreation area (LMNRA), and in close proximity to six wilderness areas.

Comment noted.

Page 1-9, Table 1-1: Of the 20 "Potentially Affected Resources", sixteen resources (80%!) will be negatively impacted by the destruction of the pristine desert. This is not good environmental stewardship!

Comment noted.

Page 1-10, Special Management Areas: The proximity of a large heavy industrial project adjacent to ACEC's, SMA's, wilderness areas, and the LMNRA is not an example of the BLM's mandate to provide environmental stewardship, nor is it good for eco-tourism.

Comment noted.

SECTION 2

Page 2-15: The substation and laydown area should be set back further from Cottonwood Cove Road. People do not vacation at Cottonwood Cove to see industrial development. This is not good environmental stewardship.

Comment noted.

Page 2-18, line 23: What is the follow-up plan for re-landscaping after construction is completed? This is an area where people live and recreate. When disturbed areas along nearby U.S. 95 were re-vegetated" after construction activity, fully ninety percent (90%) of the transplanted plants died. This is not good environmental stewardship.

Refer to MM-BIO-1 – Interim Reclamation and MM-BIO – Cactus and Yucca Salvage Plan for a description of mitigation measures.

Page 2-21, Line 12: Have any geotechnical investigations been done thus far? The granitic bedrock in the Searchlight area may be too difficult to excavate or blast, and adequate foundations would be too costly to construct. Not a good idea...

No ground-disturbing geotechnical investigations have been completed to date. Refer to in Section 2.3.1- General Features of the Proposed Project for a description of geotechnical activites that would be completed as part of the proposed project.

Page 2-28, Construction Workforce: Where will the 250-300 construction and privately-owned vehicles used by the workmen be parked while they are on-site?

All project related activities, including parking, would be limited to the ROW. This would be a requirement in the ROD and/or ROW grant. Generally parking would be limited to the laydown and staging areas.

Page 2-28, Para 2.3.3: The construction of wind turbines with flashing lights would destroy the clear night sky and the rural environment. According to the DEIS, each WTG would have two lights, which flash day and night. That would be a total of 174 flashing lights in the previously dark sky. This is not environmental stewardship.

Comment noted.

Page 2-29, line 34/35/36: To where will the construction waste and refuse be hauled? The Searchlight drop station is already inadequate for existing use, and could not accommodate waste from a commercial operation.

If Searchlight cannot accept the volume of waste generated by the facility, the waste would be hauled off-site to a licensed waste management facility. Please refer to APM-8 and Section 4.15.14- Human Health and Safety for a discussion of mitigation measures. A Waste Management Plan would be a stipulation of the ROW grant.

Page 2-30, Para. 2.3.7: The "Re-grading and re-vegetation" plan is not comprehensive. Desert plants require watering for a year after transplant. If the project is decommissioned, who will be responsible for the care of the vegetation for that year? Newly-planted desert plants die without care and water. This is not good environmental stewardship.

Comment noted.

Page 2-30, Para. 2.3.8: The area of the proposed turbines is home to several dozen Bald Eagles, Golden Eagles, and Turkey Vultures. Vultures are particularly vulnerable to "death by turbine" because of their flight patterns. California wind farms are killing Golden Eagles by the hundreds. Knowing this, why

Refer to Appendix B-4: Bird and Bat Conservation Strategy for a risk assessment for birds utilizing the USFWS Land-Based Wind Guidelines.

would the applicant attempt to build a wind farm in an identified vulture and eagle habitat? Again, this violates the BLM's mission of good environmental stewardship!

Page 2-37, APM-2, Excavation/Grading. Yucca, cholla, and Joshua trees will removed and placed in a nursery for transplanting, or as stated, "Organic matter will be mulched."?? Some of these plants are hundreds of years old. How can the BLM issue a ROW condoning this amount of destruction of pristine desert? This is not good environmental stewardship.

Page 2-39, APM-11, Aeronautical considerations. What consideration is given to plans to build homes and businesses around the airport? The necessary infrastructure has been installed. If and when the economy turns around, this project would be viable. However, if the wind turbines are built, the airport project will never be built.

Page 2-43, MM BIO-3: The DEIS states "Desert tortoise fencing would be installed around Western's proposed switching station." Will the roads and WTG pads also have tortoise fencing? The high number of tortoises counted in the area would indicate that ALL areas of construction should be fenced. Why would the BLM approve such a project in an area of KNOWN high tortoise population? This directly violates the BLM's responsibility to provide good environmental stewardship.

Page 2-44, MM BIO-5. Sixteen varieties of bats are found in the area. How will their roosts in mine shafts and natural caves be monitored during blasting and construction to ensure that no disturbance is taking place? How will the disturbances affect the populations that currently roost in those shafts and caves?
This is not good environmental stewardship.

Page 2-46, MM TRAN-1, Traffic Management Plan. The DEIS states "To further reduce effects to the US-95/ Cottonwood Cove Road intersection, the Plan will identify an alternate access route to the Proposed Project site during peak construction if possible." I suggest the "planners" look at a map of the town of Searchlight. The only "alternate routes" would be through residential areas with roads even narrower than the 24-foot wide Cottonwood Cove Road. These narrow side streets also have 90-degree turns that would not accommodate construction traffic. I do not believe there is any alternate route in Searchlight.

Page 2-48, Para. 4.12 – Socioeconomics. Very difficult to believe that applicant can make a statement that is so totally false. Property values will plummet even further than they already have; residents will move away; tourism will dwindle; local businesses dependent on tourism will fail; and the small town of Searchlight will never be able to expand beyond its present size. No one will develop anything other than more wind turbines, or possibly a hazardous waste dump, close to wind turbines that stand 430 feet tall, create 24-hour per day noise, despoil the viewshed, and have flashing lights day and night. This is total devastation for the town of Searchlight, ". . . the gateway to popular Lake Mohave in the Lake Mead NRA."

As a realtor, I work in and around the Las Vegas and Searchlight areas. Land prices are down 90%; residential property prices are down 70%. Wind turbines will kill real estate sales along with the birds. Your evaluation is totally off-base and lacks environmental stewardship.

In addition, the project map prepared by VTN dated 11-10-2009 neglects to show a number of private holdings located at the northwest part of the project. There are approximately six different landowners there, and at least six occupied residences. Why are these not shown on the project drawings?

Comment noted.

BLM had considered effects to aviation in Section 2.2-Action Alternatives Considered But Not Analyzed in Detail which contains a discussion how public and FAA representatives concerns regarding the potential impacts on public safety and airport operations from the WTGs sited nearest to the Searchlight Airport resulted in BLM eliminating alternatives that would potentially adversely affect airport operations.

Future airport development would be subject to Federal Aviation Authority regulations including Compatible Land Use, per 14 FAR Part 150 which provides that the general rule on residential use of land on or near airport property is that it is incompatible with airport operations because of the impact of aircraft noise and, in some cases, for reasons of safety, depending on the location of the property.

Fencing around the WTG pads and roads are not currently proposed. Tortoise fencing along roads would fragment tortoise habitat. Ultimately mitigation measures for the desert tortoise are determined by the USFWS and issued in the Biological Opinion, which is included in Appendix B-2: USFWS Biological Opinion.

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as an Avian and Bat Protection Plan [ABPP]) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy).

Text regarding an alternate access route has been removed from the EIS.

Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. A literature review on property value impacts has been added in Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

Page 2-49, Fire prevention: The small volunteer fire department in Searchlight is not equipped to fight the types of fires created by failed wind turbines. As an owner of property on the Oregon Trail, I am opposed to heavy commercial vehicles using this access road.

Comment noted.

SECTION 3

Page 3-5, Para. 3.1.2.8, Line 13: "The soils in the Searchlight area are susceptible to erosion by wind and water." Wind erosion will be a problem for the life of the project, and beyond, not just during construction. High dust is already an issue in Eldorado Valley, where drivers lose visibility on a windy day. Once the amount of destruction of desert vegetation and the natural crust of the soil surface necessary for the proposed project has taken place, the area will likely be a dust bowl.

During construction Searchlight Wind Energy, LLC would be required to use an approved dust control measures to lesson blowing soil. After construction is complete disturbed areas would be revegetated.

Applicant should also consider the potential for respiratory illnesses occurring in local residents, resulting from the dust. Many of the local residents are elderly and susceptible to respiratory diseases; some even moved to Searchlight to escape air pollution in other parts of the country. There also exists a real possibility for outbreaks of Valley Fever. As recently as 2009 a person in Boulder City contracted Valley Fever simply by being near a construction site on a windy, dusty day.

There are reports of recent cases of Valley Fever in areas of Southern California deserts that are being stripped of vegetation for the installation of wind and solar projects.

The project emissions will not exceed the NAAQS and Clark County DAQ air quality standards described in Section 4.6- Air Quality Impacts.

According to the Center for Disease Control in 2010 there were over 16,000 reported cases of Valley Fever (i.e. coccidioidomycosis), the majority of which were located in Arizona and California (Accessed July 3 2012 at: http://www.cdc.gov/fungal/coccidioidomycosis/statistics.html.). According to the University of Arizona's Valley Fever's Center for Excellence, two-thirds of all infections in the United States occur in Arizona, mostly in the urban areas surrounding Phoenix and Tucson. (Accessed on line July 3, 2012 at: http://www.vfce.arizona.edu/GeneralInfo/default.aspx). This research suggests that although Valley Fever may occur in Nevada, it is not as likely compared to other parts of the southwest. This statement is supported by the information available from Southern Nevada Health District which documents less than 10 cases per year of Valley Fever have been reported in Clark County, Nevada to date (2009-2012) (accessed online July 4, 2012 at: https://www.southernnevadahealthdistrict.org/stats-reports/disease-stats-jan12.php.).

Page 3-35, Para. 3.5.2.1 Previous Archeological Investigations, lines 36-37: Will the remaining five sites be evaluated prior to any construction taking place? Elders from the Mohave and Chemehuevi Tribes have stated that they have not had the opportunity to walk the proposed project site to identify.cultural resources. Both are in agreement that there are ancient trails transecting the site. Have these trails been identified? The project is in the viewshed of Spirit Mountain, which is a sacred site. Further investigation and mapping of trails and prehistoric sites in the area should be performed. More outreach to the Colorado River Indian Tribes needs to be done, to insure that sacred, historical and unmapped archeological sites are not damaged or destroyed.

Searchlight Wind Energy LLC has modified their project to eliminate one access road and moved one wind turbine to avoid impacting National Register of Historic Places (NRHP)-eligible features on three sites. Only one prehistoric site has been determined NRHP-eligible and it would be impacted by this project. As a mitigation measure to reduce any unnecessary impacts to eligible as well as ineligible cultural resources within the Area of Potential Effect, an archaeological monitor, will be present during road construction and improvements to aid in avoiding NRHP-contributing features as well as other recorded prehistoric sites and mining features in historic sites in the Project area.

Tribal representatives are not in favor of a wind farm within the view shed of Spirit Mountain.

Page 3-44, Para. 3.8.2 Existing Environment: The DEIS states there, among other uses, ". . . limited livestock grazing . . ." There is NO livestock in this area! All cattle, burros and wild horses were removed many years ago.

Reference to livestock grazing has been removed from the EIS.

Page 3-44, Para. 3.8.2.1 Land Ownership: What compensation will be given to the private owners of the small parcels totaling approximately 644 acres? These people bought their land with the understanding they would be able to have the quiet enjoyment of their property in a remote, unspoiled area. Others bought with the intention of building homes in the future, or perhaps to speculate on the land. The land in proximity to the turbines will now be seriously devalued. If applicant argues that value will not be affected by the presence of the turbines, then applicant should be willing to buy out these landowners at the owner's purchase price or negotiated price, whichever is greater. Destroying the view shed and environment with wind turbines will decrease the already depressed land value by yet ANOTHER 50%! This is not only environmentally irresponsible, it is economically disastrous!

Page 3-45, Para. 3.8.2.2 Governing Land Management Plans: The DEIS states the project is located in an area under the jurisdiction of the 1998 Las Vegas RMP and ROD (BLM 1998), as amended by the 2005 Wind Energy Development document. The 1998 RMP is currently under revision; the DEIS for the revised RMP is supposed to be available this Fall. Is this statement still true? Which RMP will govern?

The Las Vegas RMP, approved October 5 1998 is the governing document for this project, along with any other approved planning or programmatic document covering this field office or project type. The revised (Las Vegas) RMP Record of Decision is not anticipated until the summer of 2014.

Page 3-48, Duke Energy Rights of Way: Acreage listed differs from that stated elsewhere in the DEIS. This table states 24,382.56 acres; elsewhere the project is described as 18,949 acres. Which is correct?

The correct acreage for the proposed project area is 18,949 acres of BLM-managed land. The proposed project components would only be on BLM-managed lands. The total from Table 3.8-2. ROWs within or adjacent to the Proposed Project Area is from a database that has not been corrected to reflect the actual ROW.

Page 3-48, Southwest Gas Corp. Rights of Way: Has applicant gotten permission from Southwest Gas to build a road on/adjacent to the high pressure gas pipelines? As stated earlier, building roads and transporting heavy construction equipment over a shallow-buried high-pressure gas pipeline will present a major safety hazard, as will excavation for underground collection lines.

Southwest Gas Corporation holds a ROW grant from BLM for an existing gas line within the project area. BLM ROW grants are non-exclusive. BLM Reserves the right to grant other actions within a ROW area. Searchlight Wind Energy LLC would be required to coordinate its construction and operational activities with existing adjacent ROW holders to facilitate their continued safe operations.

Page 3-58, VRM map: The views of Spirit Mountain and Lake Mohave are unique. Likewise, expansive views of Joshua tree woodlands and forests of Teddy Bear Cholla are equally beautiful in our area. Local residents and tourists find the Mohave a special place. I am insulted by the lack of concern for this desert community.

Comments noted.

Page 3-60, Para. 3.9.4.2 Landscape Characteristics: A quote from this paragraph is as follows: "The landscape is panoramic, and expansive vistas of distant mountains are common." This sums up the beauty of the desert. However, a panorama intruded upon by 430 foot tall wind turbines is virtually destroyed for all who live in and travel through the region. This is not environmental stewardship.

Page 3-60, Para. 3.9.4.5 Lake Mead Recreation Area. Park visitation at Cottonwood Cove is stated at over 300,000 annually. All 300,000 visitors arrive at Cottonwood Cove via Cottonwood Cove Road. An 8 to 12 month construction period would financially destroy the concessionaire at Cottonwood Cove, and much of the tourism that comes through Searchlight. Applicant should perform an economic analysis to quantify the revenue lost by the concessionaire, the National Park Service, and all Searchlight businesses that are dependent on tourism. The lost business would also result in a loss of sales tax revenue for the county and state.

Section 4.12-Socioeconomic Impacts has been updated to include potential effects on recreation and tourism.

Page 3-60, Para. 3.9.4.7 Dark Skies: Finding a location near any major city with dark skies is very difficult. At present, the area around Searchlight has skies dark enough to permit star gazing. Boaters on Lake Mohave are also able to enjoy the beauty of starlit skies without the intrusion of heavy industry. If the project is built the lighting on the turbines will destroy the dark skies in the area. This is not good environmental stewardship.

Section 4.9-Visual Resources Impacts states that while some lighting will be necessary to comply with FAA regulations, it will be minimal and would not contribute to sky glow or glare.

Page 3-80 Noise

While the data presented appears to be impressive, other countries have been studying noise emitted by WTG's for longer than the U.S. Wind farm studies have determined that the types of noise and vibration created by wind turbines are unique. These have been show to have serious negative effects on the health of nearby residents, and cannot be measured with traditional methods of measurement. This is not good environmental stewardship.

Applicant needs to research and incorporate data from studies done within the past two years that apply specifically to industrial scale wind turbines. The mere fact that applicant requested and was granted a variance to increase the allowable noise level for the project area by sixteen percent (16%) indicates that applicant knows that wind turbines create noise that will affect the local environment.

Articles and studies are available where residents living near wind farms alternately describe the effect as "living next to a jet engine that revs up but never takes off"; or "sounds of thumping like tennis shoes in a clothes dryer". Residents also complain of throbbing heads and chests from the sounds and vibrations that are inaudible but felt throughout their body (infrasound).

Comment noted. The modeling study conducted for this project is the accepted standard for NEPA analysis. Refer to Section 4.10.2-Direct and Indirect Effects by Alternative for the explanation of conservative assumptions that were used in the noise modeling analysis.

The applicant's representative at the Searchlight public information meetings, Robert Charlebois, characterized noise from wind turbines as "sounds like raindrops falling on leaves" or "sounds like your refrigerator running." These comments are false and meant to deceive those people whose communities will be forever altered by Duke Energy's plans. Their quiet enjoyment of their rural lifestyle can never be destroyed.

No peer reviewed scientific studies indicate wind turbine sound being audible at a distance of 15 kilometers over land. See noise modeling presented in Section 4.10.2-Direct and Indirect Effect by Alternative for discussion on the conservative projected noise levels in the area. These models are considered conservative because the model assumes that all receptors are downwind of the noise sources simultaneously, which a physical impossibility but one that results in a conservative calculation of maximum expected sound levels.

The "Region of Influence" studied was within two miles of private property. Some of the residences are only one-quarter mile from the turbines. These residences will, no doubt, not be fit for human habitation due to noise if this project is built. The turbines should be no less than three miles from any residence. **My property is located approximately 800 ft from turbine #1.**

Additionally, studies have shown that under certain atmospheric conditions, noise from WTG's can be heard for 15 kilometers (approximately nine miles). This range would include Lake Mead National Recreation Area at Cottonwood Cove; the Sprit Mountain Wilderness Area; and all of the communities of Searchlight and Cal-Nev-Ari. This is not good environmental stewardship.

No peer reviewed scientific studies that indicate wind turbine sound being audible at a distance of 15 kilometers over land.

Page 3-84, Para 3.10.2.3 Surrounding Land Uses and Potential Noise-Sensitive Receivers. The first paragraph lists locations of nearby residents, but does not mention the homes off Oregon Trail Road. Why? These are the people who live the closest and will be most impacted by the project. These are also the same properties that do not show up on the 2009 map indicating private property parcels as outlined and shaded areas.

Section 3.10.2.3-Surrounding Land Uses and Potential Noise-Sensitive Receivers, has been updated to include residents on Oregon Trail Road.

Several of these parcels were also omitted from Table 4.10-4. Predicted Operation Noise – 87 WTG Layout Alternative. The table estimates expected noise levels at other nearby private property parcels.

The noise modeling analysis included residential properties that were nearest to any wind turbine locations. Parcel 24324000010, which was included in the analysis, is closer to a wind turbine than parcel 24324000011. Similarly, Parcel 2432400021, which was included in the analysis, is closer to a wind turbine than parcel 24324000012.

The paragraph also states that no residences are closer than 1000 feet from turbines. Many communities are placing setback for wind turbines from residences at two kilometers (1.2 miles). Just because Clark County does not have this restriction does not mean it should not apply to the residents of the community of Searchlight. Applicant should be required to redesign the project to meet the 2 kilometer setback from ALL private property.

Comment noted.

Page 3-86, Para 3.10.2.4 Ambient Sound in the Project Area Vicinity, Line 12: The DEIS uses data from the 2000 Census. A census was conducted in 2010. Twelve year old data, given the changes in the country's economy and population in the past five years, is irrelevant. The DEIS should use current data in its review, or the conclusions drawn will not be accurate.

The census data has been updated to the 2010 data, which resulted in a change in this section from 576 to 555. The change did not change the results of the analysis.

Page 3-88, Para 3.11.22, Existing Environment, lines 28 – 35. This paragraph presents a very accurate description of the existing use of the area, and the reason people choose to live and recreate here. The BLM is seriously misguided to even consider allowing heavy industrial development in the area described as: "... attract[ing] recreation visitors seeking a primitive recreation experience of natural beauty, solitude, and freedom from the regulations of structured urban environments."

Comment noted.

The only Alternate that BLM should consider for this area is that of "No Action"; meaning no project.

Page 3-92, Para. 3.12.2 Existing Social Conditions: As of January, 2012, applicant did not have a power purchase agreement (PPA) with any buyer. The state of California is providing its own renewable energy. Arizona is on track to meet its RPS. If applicant does secure a power purchase agreement with a utility in another state, I fail to see how that will benefit the residents of Southern Nevada. Any tax

Comment noted.

benefits to the county and state would be offset by loss of wildlife habitat, loss of recreation opportunities, and the loss of rural lifestyle, no matter where the expensive wind power is sold.

Page 3-94, Para. 3.12.2.1 Community Setting: This is an accurate description of the area. Particularly important is the recognition of Searchlight as ". . . the gateway to popular Lake Mohave in the Lake Mead NRA." This further enforces the obvious conclusion that this area is not an acceptable site for an industrial scale wind farm. BLM should not grant a ROW for this project.

Comment noted.

Page 3-94, Para. 3.12.2.2 Demographics and Social Trends, and Table 3.12-1 Population Statistics. Once more, why is 2010 Census data not incorporated? If the projections for 2013 are based on data from 1990 through 2008, they are way off the mark. Population peaked in Clark County in approximately 2007-2008, and has since declined. DEIS should be revised to reflect actual Census data for 2010, and projections recalculated through 2015.

Data updated to 2010 Census and 2016 projections.

Page 3-97, Tables 3-12-2 and 3-12-3: The data used in these tables is 12 years old. They should be redrawn, using 2010 Census statistics.

Page 3-98, Para. 3.12.2.3 Area Housing Characteristics: Use of data for housing prices from 2008 is totally erroneous. Data on real estate pricing is readily available from many sources. Data from Applied Analysis indicates that the 2010 median Existing Home Price in Clark County, Nevada, was $123,200, which represents an accurate devaluation of 60%-70%. The median home price in Searchlight is now $60,000.

Page 3-100, Para 3.12.4 Economic Existing Conditions: Let's talk about eco-tourism. Why is no mention made of the tourists (non-gaming) who recreate at Lake Mohave? Boaters, fishermen, kayakers, campers, hikers and other eco-tourists come to enjoy the quiet of the Joshua tree woodlands. These tourists eat in the restaurants, buy gas, and buy food at the convenience stores. This source of economic input will largely be lost forever if the turbine project is built. Searchlight is more than just a wide spot in the road between Nevada, Arizona, and California!

Recreation and Tourism Impact discussion added to document in Section 4.12-Socioeconomic Impacts.

Page 3-101, Para. 3.14.4.2 Area Income Levels: Again, data should be specific to Searchlight, and be at least as current as the 2010 Census. A quick drive around the region will verify that actual Searchlight income is more like that of Bullhead City, Arizona. Many residents are totally dependent on Social Security for their income. The report does note that the SIA has more people with incomes below $50,000 than the two-county region. I'm sure the 2012 income base will be even lower than 2008, due to the decline of the economy in the entire nation, and particularly in Southern Nevada.

Data updated to 2010 Census.

Page 3-102, Income History Graph: This graph only extends to 2000. The report states that "Overall during this period (1970 to 2000) the relative level of prosperity in the region was improving." That may have been true then, but between 2007 and 2012 the economic bubble burst, and the economics of the region today is far different. Many local economists feel the bottom still has not been reached. Nevada has the highest unemployment in the nation. Until tourism rebounds this will not change.

SIC code data series only extends to 2000. Comment noted.

If this project were built, it would create a few short-term jobs for out-of-town specialists, but in the long term would destroy the tourism in Searchlight. Therefore, the ROW should not be granted.

Page 3-106, Table 3.13-1, Estimated 2008 Families with Incomes Below National Poverty Level: Table should be redone using, at a minimum, 2010 Census data.

Data updated to 2010 Census.

Page 3-107, Para. 3.14.2.1 Potential Hazardous Materials and/or Waste: As noted in earlier comments, the potential for construction damaging the high pressure gas pipelines in the area is probably the most serious issue. Applicant needs to address, in detail, how the project would be redesigned to avoid the Southwest Gas Company easements and underground high pressure pipelines. Not only would damage to a gas pipeline do great damage to the area of Searchlight, but it would also cut off a much of the supply of natural gas to the Las Vegas Metropolitan Area.

Southwest Gas Corporation holds a ROW grant from BLM for an existing gas line within the project area. The grant is non-exclusive; therefore, the BLM reserves the right to authorize other actions within a ROW area for compatible uses. The Applicant will be required to coordinate with Southwest Gas should there be any pipeline crossings, e.g., roads, underground electrical collection systems, etc. The result of the coordination would be a legally binding agreement that such crossings would meet Southwest Gas-provided standards for engineering and applicable material requirements to ensure the safe and continued operation of the gas line.

Page 3-109, Para. 3.14.2.2 Fire Hazards: Placing 430 foot tall turbines in an area of frequent electrical storms should not be permitted. There should be serious concerns about turbine-caused wild fires. One only needs to visit the Altamont area of northern California to see the frequency of fires within a wind farm. The cause may be equipment failure, or the attraction of lighting to tall structures. Summertime storms in the area of Searchlight are accompanied by a great deal of lightning strikes.

APM-7 provides for development and implementation of an Emergency Response Plan that would include fire suppression and control.

Page 3-110, Paragraph 3.14.2.4 Transmission Lines and Pipelines: The paragraph makes no mention of the Southwest Gas Company's high pressure gas pipeline(s) that cross the full length of the project area. What safety provisions will be put in place to protect the workers and the residents?

SECTION 4.0 Environmental Consequences

Page 4-14, Para 4.3.1 Indicators: The DEIS states "The Proposed Action would affect water resources if it: Decreases groundwater supply . . ." There would be heavy water usage for construction and dust mitigation, but continued water use as the many miles of road will require ongoing maintenance and dust control. Water must be used to control dust on the areas stripped of vegetation for fire breaks? Once the natural vegetation is stripped, the area will become a prime area for infestation of non-native plants and noxious weeds.

The firebreaks will need to be stabilized, either with water or some other approved method. Once stabilized, the firebreaks should no longer require watering, as no vehicle traffic is expected that would break the crust. Section 4.3.2.2-Proposed Action – 96 WTG Layout Alternative and Section 4.3.2.3-87 WTG Layout Alternative have been updated to include water usage estimates for construction of the wind facility.

Page 4-14, Paragraph 4.3.2.1. No Action Alternative: The BLM should arrive at the conclusion that to preserve the existing ecology of the area, as well as preserve the rights of the people who live in the area to have access to an adequate supply of potable water is the only possible action. This is the ONLY response that will allow the BLM to uphold its mandate from the citizens of the United States to "sustain the health, diversity, and productivity of America's public lands for the use and enjoyment of present and future generations. "

Page 4-15, Groundwater Usage: The DEIS states that this usage would not impact groundwater recharge, but there is no indication that studies have been done on this specific area to confirm this assertion. Applicant should be required to have such a study performed to ensure that the water requirements for construction, O&M, and decommissioning will not deplete the Searchlight and Cal-Nev-Ari water supplies. Failing to independently confirm that the aquifer will renew/refill at a rate equal to, or above, the rate at which the project will use is very poor groundwater management. This certainly violates the BLM's mandate to protect the land!

The EIS specifies that alternative sources for construction water will need to be pursued in the event that SWS lacks the necessary capacity. The Applicant will coordinate with the Las Vegas Valley Water District to support the water needs for the project. If sufficient resources are not available, the Applicant will procure water from local willing sellers. Groundwater recharge in the project area is derived primarily from interbasin flow and precipitation percolating into permeable geological surfaces. An estimated 160 acres will be finished with impermeable materials; concrete and/or buildings. The estimated reduction of permeable surfaces across the 18,949 acres development would be less than 1%.

Page 4-51, Section 4.7 Transportation Impacts, Para. 4.7.1, Indicators

The project would absolutely increase traffic, degrade the roads, prevent adequate emergency access, and cause loss of access to private land parcels. In addition, since each turbine has a safety set-back of 886 feet, access to recreation access points would be affected.

The setback is in conformance with BLM Instructional Memorandum 2009-043, which states that no turbine on public land will be positioned closer than 1.5 times the total height of the wind turbine (approximately 640 feet) to the right-of-way boundary. No turbines are located within the setback from any building or primary road, other than the spur road to each turbine used for construction and maintenance, or two-track and casual-use roads.

With 300,000 visitors annually to Cottonwood Cove, on a road that is narrow and steep, putting construction traffic into the mix is a recipe for disaster.

During the construction period those people who use Oregon Trail Road would encounter great difficulty just coming and going from their properties.

Page 4-52, Lines 13 and 14, state "When construction is completed, access for motorized travel might increase due to the construction of 29 miles of new roads."

With each turbine having an 886 foot safety set-back due to potential for blade throw, just where will the public be allowed to drive? The roads are closer than 886 feet to each turbine.

Page 4-52, Lines 15 and 16: "Given the number of vehicle trips during the construction period, along with the movement of heavy construction equipment, it is reasonable to anticipate that the Proposed Action might damage pubic roads through increased use." The word "might" should be changed to "will". There is no doubt that the volume of heavy construction equipment will cause severe damage to existing roadways.

Page 4-52, Lines 21 and 22: "Construction of the Proposed Action would have a beneficial effect on road conditions because it would result in restoration of a county road to its preconstruction conditions for both the base and the surface."

The "preconstruction condition" is not optimum. Saying that taking the road back to preconstruction condition is like saying it would be beneficial to have your ten-year old car totaled, then getting it back after 8 to 12 months in the body shop, complete with the same dings it had before it was wrecked and repaired!

Page 4-52, Line 36: "Overweight and oversized loads could cause short-term disruptions to local traffic." Oversized loads on Cottonwood Cove Road will shut down all other traffic. The road is 24 feet wide, and is the only route to Cottonwood Cove on Lake Mohave.

Page 4-53, Lines 10, 11 and 12: "Future roadway improvements in and around Searchlight could reduce potential traffic delays, improve traffic flow, and increase access for motorized travel." What roads and what improvements is the applicant committing to make?

Page 4-56, Land Ownership: "the 5.5% of the project area that includes privately owned parcels would not be affected by the construction, O&M, or decommissioning of the Proposed Project, as it has been sited to specifically avoid privately owned parcels." This is blatantly untrue – EVERYONE who owns land in this area will be negatively affected. Studies have proven that values of private property land within sight of wind turbines are immediately devalued by at least 50 percent. For the DEIS to state that these parcels would not be affected is an insulting and uneducated conclusion.

Is the applicant or the BLM so certain that the property values will not be negatively impacted that they are willing purchase all private property, both residential and open land, within three miles of the project area? I thought not.

Page 4-79, Para. 4.10 Noise:

The DEIS spends untold pages discussing the methodology, etc. The fact is that most people who will be affected could tolerate the construction noise for the 8 to 12 month period. This is assuming the construction will not occur 24 hours per day for 365 days. What is totally unacceptable is having to live with the noise from wind turbines for fifty years. The turbine sound is un-ending and is in fact 24 hours per day, 365 days per year. Residents living near wind farms have reported heart disease, tinnitus,

Refer to MM-TRAN-1-Traffic Management Plan for a discussion of traffic plan elements that would be included to address effects on local traffic. The Traffic Management Plan would be a stipulation of the ROW Grant.

Each turbine has a setback recommended by the manufacturer, which ranges from 866 to 1,050 feet as it is a function of rotor diameter. No turbines are located within the setback from any building or road, other than the spur road to each turbine used for construction and maintenance. The setback is in conformance with BLM Instructional Memorandum 2009-043, which states that no turbine on public land will be positioned closer than 1.5 times the total height of the wind turbine (approximately 640 feet) to the right-of-way boundary.

Text in Section 4.7-Transportation Impacts, modified to the following:

Given the number of vehicle trips of heavy construction equipment during the construction period, it is reasonable to anticipate that the Proposed Action will damage public roads. Only minor vehicle use is anticipated during O&M and decommissioning. The Proposed Project site is in a relatively undeveloped area, and it is anticipated that construction traffic would result in short-term effects on access or road conditions.

Construction of the Proposed Action would have a temporary adverse effect on road conditions because any damage would be followed by restoration of a county road to its preconstruction conditions for both the base and surface.

Refer to Section 4.12-Socioeconomic Impacts, which has been updated indicates there would be no effect on property values. For further information see the newly added Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

See Section 4.10.2-Direct and Indirect Effects by Alternative for discussion on noise impacts. MM-NOI-1 states that construction activities would only occur during daytime hours.

vertigo, panic attacks, migraines, and sleep deprivation. To sentence Searchlight residents to that for fifty years is incomprehensible.

Page 4-81, Line 21: The 1,400 feet setback from a wind turbine from private property is entirely inadequate in the desert. Clark County and BLM should develop standards for desert wind projects, which would require a minimum setback of three miles from private property.

Page 4-92, Line 18: DEIS states "Blasting might be necessary in order to construct access roads and set turbines." Change "might" to "will". Blasting will be necessary in much of the project area due to the hardness of the granitic bedrock.

Page 4-84, Table 4.10-2 Operation Noise Model Parameters. The source of the Wind Table data is from Duke Energy. It would be far more believable if the data was from an independent source. As stated earlier in these comments, this claim is not credible.

Page 4-85, Table 4.10-3 Predicted Operation Noise. Why does this table omit Parcel 24324000011? This parcel has people living on it full time. They will be far more impacted than the undeveloped properties that are listed. Was this parcel left off intentionally? Also, Parcel 24324000012 was omitted. It, too, lies very close to the nearest turbines, but at present is undeveloped. This table should be redone, and sound data for these two parcels included, as well as other nearby parcels which were not omitted.

Page 4-91, Para. 4.10.4 Residual Effects. What are the "applicable APMs and MMS"? Would this include turning off turbines at night, or if this is not successful in giving the landowners relief, buying out the property of the people who are affected?

Page 4-92, Para. 4-11 Recreation Impacts

Page 4-92, Para. 4-11.1 Indicators: All four items listed will occur if the project is built. Conflict already exists between the master plan for Searchlight Trails, and the planned WTG's. Also, noise levels will be in conflict with NPS levels for noise at night. Access to existing recreation will be altered by the presence of wind turbines along Cottonwood Cove Road, and ORV riding areas will be impacted by the presence of turbines in previously accessible areas. The levels of use at Cottonwood Cove will change. Many people will no longer find it desirable to travel to a site with the higher noise levels that will result from the turbines.

Page 4-93, Compliance with Management Goals: The DEIS states that there would be no change to the status of the ERMA or existing ROS classification. The eighty-seven 430-foot tall wind turbines will have a hugely negative effect on recreational opportunities. What would it take to constitute a change?

Page 4-93, Lines 11, 12 , 13: Could this paragraph be translated into plain English? When 12 months of construction, 37 miles of new road, and 87 430 foot turbines in a natural area is considered fine for recreation areas on public lands, there needs to be some interpretation done.. The same question again. Given the 886 foot set-back zone for safety reason, how will the public access the roads? The altered environment and noise from turbines will eliminate the area for hunting. The change in the viewshed and noise level will not be acceptable for hikers looking for a natural experience.

Page 4-94, Lines 11 – 13: The Old Spanish National Historical Trail. "Construction activities would have minimal but permanent impacts on the trail." The BLM must come up with another plan that doesn't deface the environment and negatively impact the historical heritage in Nevada. Our history is NOT expendable!

The setback is in conformance with BLM Instructional Memorandum 2009-043, which states that no turbine on public land will be positioned closer than 1.5 times the total height of the wind turbine (approximately 640 feet) to the right-of-way boundary.

It is not certain that blasting will be necessary because on the ground geotechnical studies have not yet been conducted.

The data in Table 4.10-2. Operation Noise Model Parameters were provided by a wind turbine vendor, and represent the sound power level of the turbine as measured according to IEC 61400-11:2002. This standard was specifically developed to quantify noise output from wind turbines.

The noise modeling analysis included residential properties that were nearest to any wind turbine locations. Parcel 24324000010, which was included in the analysis, is closer to a wind turbine than parcel 24324000011. Similarly, Parcel 2432400021, which was included in the analysis, is closer to a wind turbine than parcel 24324000012.

See noise modeling in Section 4.10-Noise Impacts, for discussion on the conservative projected noise levels in the area. It is not anticipated that noise would exceed Clark County Noise Standards at residences; therefore, no mitigation is required.

BLM right-of-ways are managed for multiple uses. Section 4.10-Noise Impacts, indicates that sound levels for the NPS would be under 35 decibels which is in conformance with the NPS requested level. No wind turbines are directly adjacent to Cottonwood Cove Road. WTGs would be visible from the road. Access roads would be improved, providing access for OHV riding. Cottonwood Cove is 7.5 miles from the nearest WTGs and the noise level would not change from current levels.

The Recreation Opportunity Spectrum (ROS) classification gives the BLM direction in how to manage for recreation use. Each ROS Class is defined in terms of "activity opportunities," "recreation setting conditions," and "experience opportunities." The Searchlight area is classified as "roaded natural". Although there would be a change in the recreation setting experience, there would be no change to the activity opportunities and a change to only a portion of the experience opportunities. If the change would have also increased recreation use to cause the need for additional recreation facilities development, it may have caused the classification to change.

Each turbine has a setback recommended by the manufacturer and could range from 866 to 1,050 feet as it is a function of rotor diameter. No turbines are located within the setback from any building or primary road, other than the spur road to each turbine used for construction and maintenance. This is a standard design safety precaution to protect established structures and major thoroughfares. This does not prevent the use of the road. OHV users and other recreationalists can drive on the maintenance roads or existing two-track roads in the area.

Text has been included in the FEIS to indicate that existing access roads and/or highways cross the Congressional route of the Mojave Road Variant of the Old Spanish Trail. In November of 2012 the BLM consulted with the NPS National Trails Intermountain Region office representative and they concurred with the BLM that there would be no conflict between this route and the project either directly or visually due to this Congressional route already having been adversely impacted from historic and modern improvements along the corridor in the Searchlight Wind Energy Project vicinity. No mitigation is recommended for this project

Page 4-94, Lines 31 through 40. It is an understatement to say the project "could" have long-term impacts on the recreation setting and experience. The Searchlight wind farm WILL change the impacted area from pristine desert to a heavy industrial zone. The document states the project would "degrade the quality of the recreation setting." This area is an important area for Bighorn Sheep, and the document states the project could have a negative effect on big game and upland game and wildlife habitat. Given the admitted degradation of the natural area, and negative effect on every aspect of the area, the BLM cannot consider any alternative other than the "No action" alternative and still uphold its obligation to provide environmental stewardship to our public lands.

Recreationists will still be able to participate in their traditional activities; however, the type of experience will change.

Page 4-95, Lines 4 through 8. It is stated that the project ". . . would not substantially impact the area's potential for recreation opportunities . . ." This statement is not believable. Even though the so-called "footprint" is minimal, the fact that the turbines and infrastructure are dispersed over thirty square miles belies that statement.

Page 4-95, Para. 4.11.4, Residual Effects: How can a 30-square mile project be deemed having "moderate residual impacts on the recreation setting and experience resulting from the long-term presence of WTG's transmission lines, and access roads." How can the presence of 430 foot tall turbines, generating loud noises, and destroying the viewshed, be considered "moderate"?

Section 4.11.4-Residual Effects has been updated to state that residual impacts would be substantial instead of moderate.

Page 4-96, Para. 4.12 Socioeconomic Impacts

Page 4-96, Para. 4.12.1 Indicators: The temporary increase in construction workers is guaranteed to result in increased crime and auto accidents. Clark County and Searchlight infrastructure, including police, firemen and paramedics, are not prepared to handle these issues in a remote area. Define "Result in a tax burden to local residents not offset by the Proposed Action's generation of new public revenue." Searchlight is not incorporated, and taxes are set by the state and county

Refer to Section 4.12-Socioeconomic Impacts under Fiscal Impacts.

Tax revenue stream to Clark County judged sufficient to cover increase in incident responses due to project construction and operation. Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values.

The people of Searchlight will suffer. Searchlight's economy for years has been dependent on tourism. This project will effectively destroy tourism at Cottonwood Cove for one to two years. Since Searchlight does not have adequate resources to feed and house the construction workers during that period, it is incorrect to assume that revenue will replace the tourism dollars. The increased spending resulting from the project will occur in Las Vegas, Laughlin, Bullhead City, and even more distant sources of supply. Land Lease payments made to BLM go to the U.S. Treasury; sales tax goes to the state; property taxes go to the county and state. Searchlight will be left worse off economically and "social benefit-wise" than before the project.

The one group that will directly benefit from the project is the shareholders of Duke Energy. CEO James Rogers has been quoted as saying, when asked why Duke invested in wind projects, that wind projects guarantee Duke Energy from 17 to 22 percent return on equity. This is particularly obscene, when one considers the damage to the people of Searchlight and the desert environment surrounding the town.

Also, the location of the project surrounding the town on three sides will prevent future growth for Searchlight. The project is a "lose-lose" for the Searchlight and its residents.

Page 4-98, lines 13 to 25: The statement "The land would retain its rural desert qualities, and the habitats supporting ecosystems and species would not be altered from project-related encroachments." is true, under the "No Action" alternative. In addition, the residents of Searchlight and the surrounding area could continue to enjoy their rural lifestyle; tourists could continue to find enjoyment in the natural environment surrounding Lake Mohave, Native Americans could continue to visit sacred Spirit Mountain

The analysis compares socio-economic conditions with and without the project.

without the beauty of the nearby desert having been destroyed; Searchlight residents could continue to enjoy the beautiful views of Spirit Mountain and Lake Mohave, and enjoy stargazing under the dark, quiet night skies. Eagles, bats, tortoises, desert bighorn and other wildlife could continue to survive in their natural habitat.

Only the No Action alternative would have very positive socioeconomic impacts in the immediate areas of Searchlight, Cal-Nev-Ari and Cottonwood Cove. There would also be no need to count dead eagles and other dead birds, dead bats, and dead tortoises under the No Action alternatives. Tourism would flourish.

Page 4-112, Line 32: The report notes that Cottonwood Cove Road passes by some of the newer homes in Searchlight. Please note: Very few of these homes were ever sold. The developer went bankrupt, and the empty homes are now bank-owned. I am the listing agent for the Cottonwood Lakes Homes, and I can assure you that these properties are already priced at approximately one-third of the original asking prices. The possibility of the homes being in the proximity of a wind farm has contributed to the low asking prices. Realtors are obligated to inform potential buyers of the plan for an industrial wind farm nearby.

Page 4-112, Line 34-35: The statement that "no negative impacts on property values from construction and O&M of the 87 WTG Layout Alternative could be documented." This statement is incorrect.

Page 4-119, Fire and Electrocution Hazards: The DEIS mentions overhead transmission power lines, but does not mention the underground hazard presented by the existing high pressure gas pipeline.

Page 4-120, Lines 4-14: This paragraph describes the propensity for WTG's to cause fires. As discussed earlier, the local volunteer fire department may not be able to respond with enough fire-fighting capability to handle wind turbine caused fires, and other fire-fighting agencies are at least 40 miles distant. This would create a very hazardous situation for the residents of Searchlight.

Page 4-120, Lines 23 – 26: The creation of the fire breaks mentioned would result in clearance of a large amount of desert flora. This would contribute to very dusty conditions throughout the entire project area. How would applicant prevent dust from blowing following clearing of all vegetation? Will this require even more water than originally stated?

Page 4-125, Para. 4.15.9 Visual Resources: If the life of the project is 50-70 years, the visual resources are essentially gone for a lifetime. To say that there is not anticipated to be any irretrievable commitments of recreational resources is misleading. The resource is lost for at least two generations.

Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. For additional discussion, refer to the newly added Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

Southwest Gas Corporation holds a ROW grant from BLM for an existing gas line within the project area. The grant is non-exclusive; therefore, the BLM reserves the right to authorize other actions within a ROW area for compatible uses. The Applicant will be required to coordinate with Southwest Gas should there be any pipeline crossings, e.g., roads, underground electrical collection systems, etc. The result of the coordination would be a legally binding agreement that such crossings would meet Southwest Gas-provided standards for engineering and applicable material requirements to ensure the safe and continued operation of the gas line.

Refer to Section 4.14-Health and Human Safety Impacts for a description of the 20-foot-wide firebreak on the exterior of the perimeter fencing surrounding the O&M building and the proposed substations, and WTG locations (APM-7). APM-7 provides for development and implementation of an Emergency Response Plan that would include fire suppression and control. The firebreak acreage was included in the Air Quality analysis and a Dust Control Permit is required from the DAQ prior to start of construction projects in Clark County. The permit will contain measures to reduce fugitive dust.

Comment noted.

April 17, 2012

BLM, Las Vegas Field Office
Attn: Greg Helseth, Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
ghelseth@blm.gov
BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

COMMENTS ON SEARCHLIGHT WIND ENERGY RIGHT-OF-WAY APPLICATION

Dear Mr. Helseth:

As a concerned citizen and resident of Southern Nevada, I am respectfully requesting that the Bureau of Land Management DENY the right-of-way application submitted by the Searchlight Wind Energy Project (NVN-084626).

After reviewing the DEIS for this project, I am convinced that approving the application would violate both commonsense and the BLM's obligation to the citizens of the United States to "sustain the health, diversity, and productivity of America's public lands for the use and enjoyment of present and future generations. " The wind farm project will be nothing short of a death sentence, both economically and biologically, for the Mohave Desert and the town of Searchlight.

Based on the information in the DEIS, the only conclusion the BLM should reach for this project is an outright denial of the ROW application!

1. **Data Used:** Nearly all of the statistics used in the DEIS are outdated and/or obsolete. Current (2010) census data, as well as recent socioeconomic trends in population and real estate prices, are readily available and should be used. The outdated data does not provide an accurate picture of the local population and economy, which has been more drastically-affected by the recession than other areas of the United States. This can, and in my opinion HAS, led the BLM to draw erroneous conclusions in the DEIS. The use of faulty data to reach a conclusion that could negatively impact an entire community, as well as numerous wilderness areas, is unacceptable.

2. **Missing Data:** Several parcels of privately-owned land which will be directly impacted by the proximity of the WTGs were not included in the DEIS evaluation. These properties, off Oregon Trail Road, are the closest to the proposed WTG sites. At least one property line is INSIDE the required 886-foot "blade throw safety setback"! Failure to include these parcels in consideration is both deceptive and inexcusable!

3. **Oversight:** Several items in the DEIS require the applicant to commission and provide reports or supervision for environmentally-sensitive mandates and agreements, such as cultural resources and desert tortoise protection. There is no mention of any oversight to ensure compliance by the applicant. This oversight should NOT be provided by the applicant, so who WILL provide it and from where will the funds and manpower be obtained?

4. **Water:** "Water for the Proposed Project would be obtained from the existing 15 SWS, which is supplied by two supply wells, or another existing water right in the Searchlight area." What studies have been done to confirm the recharge rate for the local water table? Southern Nevada is in the middle of a drought, and 2012 is predicted to be the worst year yet. Where is the water coming from? Will the residents and business owners in Searchlight suffer because the construction needs outweigh the water available?

Comment noted.

4.12-Socioeconomic Impacts have been updated using 2010 Census data.

All private property information was obtained from the BLM and confirmed with the Clark County Assessor's office. All properties on Oregon Trail Road were included in the EIS. No turbines are located within the setback from any building or road, other than the spur road to each turbine used for construction and maintenance.

A third party compliance contractor will be a stipulation of the ROW grant. Third party compliance contractors are funded by the applicant but must be approved by the BLM.

The Nevada Division of Water Resources monitors water use. Water law in Nevada is based on protecting prior appropriations. Piute Valley is a designated basin. Therefore, no additional water rights can be issued. If the SWS system cannot meet the water demand for this project, then alternative sources will be sought. The Applicant will coordinate with the Las Vegas Valley Water District to support the water needs for the project. If sufficient resources are not available, the Applicant will procure water from local willing sellers

5. **On-Site Construction**: Why are the turbine towers being constructed on-site? In New Zealand, turbine towers are constructed off-site and then lifted into place via helicopter. This minimizes the environmental impact, since only a standard-width access road is required. Why is there no mention in the DEIS of other construction methods (such as the helios) that could enormously reduce the damage to our desert? Is this a case of "but we've ALWAYS done it this way" over an environmentally-sound alternative?

Construction using helicopters would still require road construction or improvements for construction of foundation excavation and other construction activites. Helicopter use for heavy construction raises safety concerns, and noise impacts.

6. **Relocation of Plants and Cacti**: Despite what the *Searchlight Botanical Survey Report* (AEC 2010), which was prepared for Duke Energy, claims, Joshua Trees DO grow in the impacted area. These endangered plants are NOT suitable for transplanting, as they are very delicate. Given that 90% of the desert plants along US-95 died after being "re-vegetated", the very idea that anyone could temporarily move and/or store delicate Joshua Trees (or any other desert plants), and then replant them is ludicrous.

The commenter is correct that Joshua trees and other desert fauna is difficult to transplant. A detailed cactus and yucca salvage plan is being developed for the project and elements of that plan are discussed in MM-BIO-2-Cacti and Yucca Salvage Plan. If the project is approved, the salvage plan will be included as a stipulation in the ROW grant.

7. **Use of US-95 for Transporting Turbine Parts and Equipment**: US-95 between Las Vegas and Laughlin, NV is, at best, a nightmare to drive. There are already thousands of vehicles per day using this road, including hundreds of 18-wheelers and RVs. Adding the number of oversized construction vehicles required to deliver turbine sections and other necessary equipment to the project site will overload the highway and create even more traffic nightmares than already exist.

Comment noted.

8. **Effect on Cottonwood Cove Drive:** Cottonwood Cove Drive is a single-lane-each-way road, primarily used by residents and visitors to the Colorado River. The amount of construction traffic, and the size of the vehicles needed, will overload the existing road. It will create traffic obstructions that will prevent easy access to both the residential areas and the river. Widening the road by 50% (to 36 feet) will destroy both the desert habitat and the very nature of the entryway to the Colorado River.

A Traffic Management Plan would be prepared to address effects on local traffic. Refer to MM-TRAN-1 for a discussion of elements that would be included in that plan. The Traffic Management Plan would be a stipulation of the ROW Grant. It is not proposed that Cottonwood Cove Road would be widened to 36 feet (see Figure 2-2-87 WTG Layout Alternative).

9. **Socioeconomics**: The DEIS claims the project will provide "short-term, beneficial residual effects on population and housing..." There will be no beneficial effects, short-term or otherwise, for the town of Searchlight. Any workers hired for the project will either be "locals" who already have housing in Las Vegas, or will be brought in from out-of-town and therefore be housed in Las Vegas, as Searchlight has limited visitor lodging available. This does nothing at all for the economy of the town that will be most affected by the construction. The same applies to the "long-term beneficial residual effects" of the wind farm. There are NO beneficial effects for Searchlight!

Comment noted.

10. **Local Opinion**: Although the BLM's obligation to the taxpayers does not require it to make decisions based on popularity with local residents, when nearly everyone who will be **directly affected** by a given decision is OPPOSED, it would be unreasonable of the BLM to ignore their opinions. In this case, the vast majority of Searchlight residents and landowners are opposed to the wind farm project, which will surround their town on three sides, devastate their already-depressed property values, and potentially destroy their livelihoods and dreams of retirement.

Comment noted.

11. **Cultural Resources**: The applicant is charged with preparing, on the BLM's behalf, an "inventory of cultural resources within the APE...to determine which are historic properties..." and to determine the project's potential effects on these resources. There is no mention of independent oversight to ensure an honest and accurate report is generated by the applicant.

The inventory was conducted by professional archaeologists and architectural historians employed by an independent contractor (URS Corp.). The contractor is required to provide unbiased recommendations for cultural resources in the project area. BLM archeologists, familiar with the project area, reviewed the cultural resources report and provide constructive comments to the contractor. The federal government,not the independent contractor, makes the final determinations on the eligibility of sites in consultation with the State Historic Preservation Office.

12. **Clean Water Act**: The applicant is charged with preparing a report identifying wetlands. Again, there is no mention of independent confirmation of the report's results. This is akin to allowing the fox to guard the henhouse!

The wetlands report (Jurisdictional Determination) and permitting is subject to regulatory review of the US Army Corps of Engineers.

13. **Lack of Need**: The applicant does not have a purchase agreement, a letter-of-intent, or even a "gentlemen's agreement" from any utility to buy the power it proposes to generate. This is a classic case of "if you build it, they might come" mentality! The applicant proposes to spend billions of dollars, including taxpayer funds for the BLM's role in this project, to generate electricity no one plans to buy. The original proposal included sending the power to California (NOT to Nevada, so no benefits to us there, either). However, California recently announced it will no longer need to purchase renewable energy from outside the state and will, in fact, be SELLING power it generates!

14. **Areas of Critical Environmental Concern (ACEC)**: The DEIS specifically states that there are ACECs "adjacent to and surround[ing] the project area". Because the designated project area does not include these lands, no evaluation was made of any direct impacts. However, the DEIS further states that during the construction phase, "Some [wildlife] species that are particularly mobile might be able to avoid injury or mortality by leaving the area." The report also states: "... noise and activity associated with construction could cause animals to avoid the area, thus altering their normal behavior patterns." Given that the ACECs are ADJACENT to the impacted area, where do you think those "mobile" species will be going? The DEIS claims APMs 1-4 and APM-9 will "mitigate" any problems for the ACECs, but none of those APMs cover the possible addition of wildlife populations to areas of CRITICAL ENVIRONMENTAL CONCERN!!

    "Residual effects on wildlife diversity, populations, and habitat resulting from implementation of the Proposed Action or alternatives would be long-term. Effects include the permanent loss of 152-160 acres of wildlife habitat, resulting in the loss of shelter, breeding and foraging opportunities in the project area, and barriers and hazardous to wildlife behavior patterns with construction of new roads and transmission line towers." Again... loss of habitat = relocation of plants and animals, which WILL have a DIRECT impact on the ACECs! It is the obligation of the BLM to "sustain the health, diversity, and productivity of America's public lands..." To uphold this mandate, a complete study of the potential impact of these "mobile" species on the ACEC is required.

    Six wilderness areas near the proposed project site have also been deemed by the BLM to be worth preserving, in addition to the ACECs. Why would this agency consider destroying the area immediately adjacent to Searchlight? The turbines will be visible from several of the six wilderness areas, as well as the Mojave Desert Preserve in California. How can these still be considered wilderness areas if they are in proximity to heavy industrial development?

It is my heartfelt wish that the BLM deny this ROW application. The devastation this project will cause to the residents of Searchlight, combined with the long-term destruction of a large section of the Mohave Desert, is simply unacceptable. This is the MOHAVE DESERT, not the Gobi. It is not a barren wasteland avoided by all living things. It is a vibrant, living eco-system. Allowing this to be ruined for next 70 years directly violates the BLM's mandate to protect our public lands both now and for the future.

Sincerely,

Eileen F Wood
6009 Chariot Lane
Las Vegas, NV 89110

Comment noted.

Possible impacts to wildlife are limited to the project area because that is the area in which impacts would occur. An ACEC is deemed an avoidance area except within a half-mile of a federal-aid highway. The proposed project would not have any habitat removal or operational impacts within the ACEC except for the proposed switching station and transmission line, which in which this exception would be applicable. Development of the proposed project (i.e. land outside the ACEC) is in conformance with BLM land use policy as discussed in Section 4.8-Land Use Impacts.

Possible impacts to wildlife are limited to the project area because that is the area in which impacts would occur. An ACEC is deemed an avoidance area except within a half-mile of a federal-aid highway. The proposed project would not have any habitat removal or operational impacts within the ACEC except for the proposed switching station and transmission line, which in which this exception would be applicable. Development of the proposed project (i.e. land outside the ACEC) is in conformance with BLM land use policy as discussed in Section 4.8-Land Use Impacts.

April 17, 2012

BLM, Las Vegas Field Office
Attn: Greg Helseth, Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
ghelseth@blm.gov
BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

Dear Mr. Helseth:

I would like to submit these comments for the Draft Environmental Impact Statement (DEIS) for the Searchlight Wind Energy Project (NVN-084626) and request that the BLM deny the right-of-way application submitted by the Searchlight Wind Energy Project (NVN-084626).

I am opposed to the project for the following reasons:

1. Nearly all of the statistics used in the DEIS are outdated and/or obsolete. Current (2010) census data, as well as recent socioeconomic trends in population and real estate prices are readily available and should be used. The outdated data does not provide an accurate picture of the local population and economy, which has been more drastically-affected by the recession than other areas of the United States.

2. The Purpose and Need Statement should incorporate a "need" to protect wildlife, visual resources, cultural resources, property values and public health.

3. The DEIS failed to consider a full range of alternatives. The National Environmental Policy Act requires the Bureau of Land Management to examine alternatives outside of the jurisdiction of the lead agency.

4. The BLM needs to consider a distributed generation alternative, a private lands alternative and an alternative that sites the project away from sensitive wildlife resources and private property.

5. The BLM needs to include an alternative that designates No Action and declares the site inappropriate for wind energy.

6. The DEIS states that the Las Vegas Resource Management Plan will not need to be amended to approve this project because the site was examined by the Wind Energy Programmatic Environmental Impact Statement in 2006, but the Wind PEIS contains very little specific information on the Searchlight Wind Project site. The Las Vegas Resource Management Plan is a very big land use plan and will need to be amended to examine the impacts of the project.

7. In some cases, the project would be located within a quarter mile of private property. Several privately-owned parcels, those closest to proposed WTG sites, were not included in the noise data review. The DEIS does a poor job of evaluating public health impacts such as Wind Turbine Syndrome and effects from dust stirred up during construction.

Data has been updated to 2010 Census.

The EIS's purpose and need statement complies with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instructional Memorandum 2011-059. The purpose and need statement appropriately integrates Congress's goal that the Secretary of the Interior should seek to approve renewable energy projects on the public lands; direction from Secretarial Order 3285A1 (March 11, 2009, amended February 22, 2010), which establishes the development of environmentally responsible renewable energy as a priority for the Department of the Interior; and the BLM's responsibility under FLPMA to manage the public lands for multiple use, taking into account the long-term needs of future generations for renewable and non-renewable resources.

The BLM developed a purpose and need statement and considered a range of reasonable alternatives consistent with NEPA, applicable regulations, and BLM policies and procedures, including BLM Instruction Memorandum 2011-059. The two action alternatives satisfy the purpose and need because they fulfill BLM's obligation to consider the ROW applications under FLPMA and NEPA and because they are consistent with other applicable federal mandates and renewable energy policies and goals.

Section 1.5-Land Use Plan Conformance Determination and Section 4.8-Land Use Impacts discloses that the project is consistent with the BLM RMP. This EIS is evaluates the site-specific impacts to resources as directed by the PEIS.

8. The project would further damage the already depressed property values of local residents and landowners.

9. The project would be located in very close proximity to Lake Mead National Recreation Area and the Colorado River which has a unique and important avian fauna. It is a fly-way for migratory birds. The numbers from the Altamont Pass wind farms in California prove that wind energy injures and kills avian fauna. The nearest turbines would be just 8 miles from the Colorado River.

10. Lake Mead is an essential area for wintering bald eagles, and golden eagle nests have been found within 5 miles of the project. Golden eagles are being killed by wind turbines all over North America.

11. Surveys for the project have stated that the desert tortoise population numbers are about 13 adults per square mile which is significant. The project will fragment the habitat with large wind turbine footprints and about 30 new miles of roads, many of which will be 36 feet wide. Mitigation proposals are not sufficient to prevent impacts to the species.

12. The project would block linkage and movement corridors for desert bighorn sheep.

13. Most of the biological resource mitigation for the project is deferred and there is little information on how the applicant will mitigate impacts to bats, burrowing owls, Gila monsters, rare plants, etc.

14. The DEIS has not evaluated all of the cultural resources located on the site.

15. The project will have negative impacts on the visual resources in the area. It will be visible from Lake Mead National Recreation Area, the Mojave National Preserves and wilderness areas adjacent to the site. The project will also have red flashing aviation lights activated for the entire night. The project will be a visual disturbance to the local residents of the area which could impact the tourism economy.

I would like to request that BLM adopt a No Action Alternative for this project and to designate the area inappropriate for wind energy.

Sincerely,

Thomas Wood
6009 Chariot Lane
Las Vegas, NV 89110-2707

A Dust Control Permit is required from the DAQ prior to start of construction projects in Clark County. The permit will contain measures to reduce fugitive dust.
The updated Socio analysis presented in Section 4.12-Socioeconomic Impacts indicates there would be no effect on property values.

Comment noted. Impacts to golden eagles are discussed in Section 4.4.5.11-Migratory Birds - Direct and Indirect Effects by Alternative and Appendix B-4: Bird and Bat Conservation Strategy, which has be added to the EIS.

The USFWS determines appropriate mitigation measures in the Biological Opinion, which is include as Appendix B-2: USFWS Biological Opinion.

Impacts to desert bighorn sheep are discussed in Section4.4.5.14-Game - Direct and Indirect Effects by Alternative. Also refer to Appendix B-3: Terrestrial Wildlife Plan, which has been added to the EIS. The project would only occupy a small portion of the available migratory corridor between these mountain ranges leaving some connectivity between the ranges; therefore, the project effects are anticipated to be minimal.

A Bird and Bat Conservation Strategy (BBCS) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy).

Burring owl mitigation is discussed under MM-BIO-6. Mitigation for Gila monsters is discussed under MM-BIO-4 and in Appendix B-3: Terrestrial Wildlife Plan. No rare plants were found in the survey area; therefore, no mitigation is required.

An intensive cultural resources inventory of the Area of Potential Effect (APE) (i.e. activity areas surrounded by a large buffer) was performed. No disturbance activities would occur outside of the 200-foot buffer area. Cultural resources outside of the APE would not be impacted. Any modifications or changes to the APE would trigger additional cultural resource inventories. All sites identified during the Class III inventory have been evaluated for eligibility to the National Register of Historic Places.

Comment noted.

Sincerely,

Timothy Wood
6009 Chariot Lane
Las Vegas, NV 89110-2707

SEARCHLIGHT WIND ENERGY PROJECT
DRAFT ENVIRONMENTAL IMPACT STATEMENT

Public Meeting Comment Form
Bureau of Land Management, Las Vegas Field Office, NV

The Bureau of Land Management (BLM) is holding public meetings to encourage public comments on the Draft Environmental Impact Statement for the proposed Searchlight Wind Energy Project. Comments received during the Draft Environmental Impact Statement (EIS) comment period will be addressed in the Final EIS. Written comments on the Draft EIS must be received via email or postmarked no later than April 18, 2012. **For further information, please contact Gregory Helseth at (702) 515-5173 or send an email to:** blm_nv_sndo_searchlightwindenergyEIS@blm.gov.

Please provide your current mailing address and/or any additional names and addresses you think should be included on our mailing.

Meeting Location: Boulder City

Your Name: Thornton Michael Name: _____

Address: 330 E Warm Springs Rd Address: _____

City/State/Zip: LV, NV 89119 City/State/Zip: _____

Please check all that apply:

___ Add my name to the mailing list for this project

X Do not include my name on the mailing list

___ Withhold my name/address to the extent allowed by law (only for persons not representing an organization)*

*** All comments received by the BLM become a part of the public record associated with this proposed project. Accordingly, your comments (including name and address) will be available for review by any person that wishes to review the record. At your request, we will withhold your name and address to the extent allowed by the Freedom of Information Act or any other law.**

Comment:

Being recently settled in Las Vegas.
These turbines ~~are~~ will impact on environment
eg: flora, fauna, ruin ammenity values.
I previously was a citizen in a country where
green technologies are required by law. ON this basis.
current Proposal is, short sighted, ill considered & Poorly
located. Any jobs crected will be short term.
I suggest both parties get onboard an aircraft bound
for New Zealand & discover the "correct" way to
install environmentally friendly energy sources.

Comment noted.

Comments on Searchlight Wind Energy Project Draft EIS

April 18, 2012

To: BLM, Las Vegas Field Office
Attn: Greg Helseth, Renewable Energy Project Manager
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
ghelseth@blm.gov
BLM_NV_SNDO_SearchlightWindEnergyEIS@blm.gov

From: Zachary Stanko, E.I.T., Humboldt State University
656 16th St
Arcata, CA 95521
zps2@humboldt.edu

Subject: Comments on Searchlight Wind Energy Project Draft EIS

Summary

The main points addressed in this memo cover four topics: NEPA procedures, water resources, aesthetics, and economics. The focus of this critique is on the wind turbine generators (WTGs) that are proposed to be constructed (i.e., not the switching station). Overall, some deficiencies in impact mitigation, value estimates, and graphic representation are identified. There are also some organization and clarity issues that could confuse the reader. My Intent in disclosing these deficiencies is to see the project is described fairly and accurately.

Introduction

I am writing this memo as a research engineer at the Schatz Energy Research Center in Arcata, CA, and with a general interest in wind power projects. I am in favor of this project and wish to address some points that may have been overlooked and could lead to misunderstandings. My area of professional expertise is hydrology and water resources and my position as a citizen is one of a frequent visitor to national parks and recreation areas. The Searchlight Wind Energy Project (the Project), as I understand it, is an application by Searchlight Wind Energy to construct, operate, maintain, and eventually decommission a 200+ MW wind turbine generator (WTG) facility adjacent to the town of Searchlight, NV.

Procedural Comments

The purpose and need for the BLM is to respond to the right-of-way applications by Searchlight Wind Energy. If granting or not granting permits is the sole reason for the BLM conducting this analysis, then either no action (deny the permit) or action (granting the permit) with or without modifications would be the result. However, there is no clear method or criteria for choosing

A table summarizing impacts has been added to the Executive Summary.

between the proposed action (96 WTGs) and the BLM preferred alternative (87 WTGs). Some method for the reader to determine the tradeoffs associated with a difference of 20 MW between alternatives. If the difference is only a disturbance of 20 temporary acres and 8 permanent acres , then it seems that the extra power over a proposed 30-year lifespan would be preferred. While I recognize there are additional, substantial differences to the two alternatives, such as particulate emissions, the performance of each alternative with respect to all criteria investigated should be synthesized in a reader friendly table. A modified significant impact summary, including significance after mitigation and a life-cycle cost/benefit assessment, for each action alternative is requested.

The most noticeable public process deficiency is the absence of stakeholder identification. Interested groups or individuals include but are not limited to: residents of Searchlight, Native American tribes, developers, ranchers, tourists, boaters, miners, National Park Service, and local agencies. Many of these affected parties are mentioned in specific sections, but a compiled list (most appropriately in the Public Scoping Process section beginning on page 1-8) of everyone with interests would be useful.

Please refer to the expanded Chapter 5-Consultation and Coordination, for a list of stakeholders, public scoping processes, and coordination with other agencies.

Water Resources

The description of the three affected watersheds is included, but little information is presented on how to assess the potential impacts. The available data is limited and properly characterizing existing conditions requires further studies. However, merely presuming existing groundwater quality and flow directions is insufficient for a project of this magnitude. The mitigations for the construction phase include maintaining acceptable water quality conditions, but no actions to monitor potential effects are presented. The potential erosion and runoff effects on groundwater quality is significant and there is no measure of current salinity or suspended solids to compare. While the mitigation measures are appropriate, additional water quality parameters, such as turbidity, should be measured as a gauge for impact intensity.

It is assumed that the commenter intended to write "surface water" instead of "groundwater" as being sensitive to erosion and runoff effects. The issues of potential erosion will be addressed in the SWPP, which would be a regulatory requirement for project development.

Since water contamination is unacceptable, there should be thorough mitigation procedures for ensuring that water quality remains unaffected. As presented, actions that ensure the mitigations are successful, in any phase of the project, cannot be found. Equipment monitoring to prevent or identify any leaks or spills is included, but water quality monitoring is also necessary. During storm events, some measure of sediment load should occur for at least one surface water body in

Refer to the recommended lists of BMPs for monitoring and secondary containment, runoff and erosion control. The Applicant must prepare a SPCC plan for review and approval by NDEP prior to storing regulated substances on site. In the event of a release of hazardous materials or wastes, the incident would fall under the NDEP Bureau of Corrective Actions, which oversees the cleanup of regulated substances that impact air, soil, water and ecological resources. Regarding the commenter's recommendation of performing modeled simulations to estimate impacts, NDEP requires that field assessments be performed, which include sampling and laboratory analyses to quantify impacts of regulated substances released to the environment. Modeling would be a possible future tool for evaluation, but is not considered appropriate nor useful for the initial assessment.

each of the three watersheds. This will be an indicator for any unsuccessful erosion control measures. In addition, if a hazardous leak were present and unnoticed, there is no mitigation to ensure the contaminant would ever be identified and removed. Some modeling should be completed to estimate the time it would take for a contaminant to percolate into groundwater. If a leak was found, depths of soil penetration should be modeled to estimate remediation needs. Existing wells outside of the project area should then be monitored for any trace evidence of the hazardous materials used.

The Project's estimates and impacts of groundwater usage are insufficient. The DEIR states on page 4-15 that estimates are based on "similar renewable energy projects in the western U.S.," but no specific projects are mentioned or cited. There is also no criteria for identifying this impact's significance nor is there any mitigation if Searchlight's water supply decreases beyond an acceptable amount. Water rights for the region are indicated on page 3-15, but the report does not describe any potential conflict between water needed for construction and water available after the local water needs are satisfied. Attempting to quantify the percent of available water resources that will be utilized for the Project would be a significant improvement to the currently identified water use impacts. A direct assessment of the Project's water availability impacts on the Searchlight Water System (SWS) could provide context on the volume estimates of water use. Residents of Searchlight and other water rights stakeholders deserve to know that their claims will not be affected when water demand is increased during construction.

The projected water use the construction and operations and maintenance of this project are considered reasonable estimates and are based on past project within the southern portion of the State. Nevada water laws are designed to protect existing, appropriated water rights. Section 4.3.2.2-Proposed Action – 96 WTG Layout Alternative and Section 4.3.2.3-87 WTG Layout Alternative have been updated to include water usage estimates for construction of the wind facility. In the event that existing water resources are found to be insufficient for the construction and/or operation of the proposed project, then an alternative water source will be pursued. The Applicant will coordinate with the Las Vegas Valley Water District to support the water needs for the project. If sufficient resources are not available, the Applicant would procure water from local willing sellers.

The potential effect on surface water quality and runoff behavior will also be significant but mitigation procedures are not well defined. For example, Applicant Proposed Measure 4 (APM 4) is referred to frequently, but only states that a Stormwater Pollution Prevention Plan (SWPPP) will be developed. This proposed measure gives no detail on any specific components of this plan. Construction impacts to surface water are declared to be mitigated by APM 4, but the components of this plan are not presented so mitigation is not ensured. Mitigation Measure (MM) WATER-7 discusses some visual assessments of stormwater impacts, but the relationship between this and APM 4 is unclear. If the meaning is such that the measures listed in MM WATER-7 will become part of APM 4 then this should be explicitly stated. Additionally, the actions proposed in MM WATER-7 are not sufficient to identify contaminants or harmful levels of sediment in surface water. A suggested approach is to measure water quality parameters

The SWPPP cannot be prepared until the WTG project design is available. The project Applicant will prepare a site specific SWPPP once the actual project footprint (number and locations of WTGs, roads, laydown yard, structures, etc.) is established. The SWPPP, which will describe a monitoring plan with thresholds and BMPs, must be approved by Clark County DAQ prior to issuance of a construction permit.

(TSS, pH, etc.) in surface runoff before, during and after the project construction. An analysis of at least one sample, before and after construction, for any petroleum or hazardous waste contamination would reassure the public that there is a commitment to environmental preservation.

While it might be insignificant, the additional load on the region's wastewater treatment system should be evaluated. There is currently no mitigation presented that addresses the impact significance of an overloaded treatment system. Technical analysis should be completed to determine the maximum additional load the current system can safely and effectively treat. The results of this analysis should then be used to further compare the two action alternatives. The persons responsible for wastewater management in Searchlight would better prepare for an load increase if they had an estimate of the additional influent.

The proposed project has no plans to connect to the CCWRD treatment facility. Per Section 4.3.2.2-Proposed Action – 96 WTG Layout Alternative, a commercial contractor will bring in Temporary portable restrooms during construction. Following construction, the O&M building will be equipped with a septic system for treatment of sanitary wastewater that must meet the requirements of, and be permitted by the Southern Nevada Health District.

Use of a surface water simulation model would provide a better estimate of the cumulative effects of altering 230 acres of land versus 152. Some USGS models that might be appropriate for the Project region include: FESWMS,PRMS, and SWSTAT. FESWMS is a two-dimensional flow model used for simulating change to hydraulic conditions over broad horizontal plains. PRMS has the ability to model hydrologic processes from precipitation on a large watershed scale and can account for evaporation, transpiration, runoff, infiltration, and interflow. SWSTAT uses time-series data to generate hydrograph tables and curves, which can assist in watershed management. One or more of these models could be used to predict different flow scenarios over altered terrain and help assess erosion potential. For summaries of and links to these and other models, see: <http://water.usgs.gov/software/lists/surface_water/>. Quantifying current and predicted flows leaving each of the three watersheds could be used to determine sediment transport capacities. These capacities would then provide guidance on sedimentation control measures to prevent excess erosion and deposition.

Comment noted. Hydrologic modeling may be utilized, as necessary, in the selection of BMPs for the SWPPP.

In general, the water resource impacts are addressed generically and not technically. There are issues with several other APMs being too vague and failing to directly identify actions that will be taken. Also the presentation of impacts fails to meet the specifications of intensity and context of significance listed in the Environmental Consequences section of the DEIS. A clearer approach would be to directly present the context and intensity within each affected resource section. Lastly, there are instances of water volume estimates that lack an acknowledgement of

APMs, such as SPCCP, SWPPP, Dust Control Plan, all have very specific components, which would be addressed prior to approval by the appropriate regulatory agency.

uncertainty in their value. An engineer might be interested to know if 4000 gallons of water used per day is plus or minus 10 gallons or 500 gallons. These uncertainties could add up over the length of the construction period (also a broad estimate) to an impact more severe than initially identified. A suggestion might be to include a safety factor in all water volume measurements to buffer any unexpected additional usage that could come from extended construction times or other unforeseen project changes.

Aesthetics

Foremost, the map depicting the key observation points (Figure 3.9-1) is not easily readable. The extent of the 50 mile radius is important to visualize, but several of the Key Observation Points (KOPs) nearest to the Project site could be identified on a map that has a smaller scale. In addition, the Visual Resource Management (VRM) classes for the project site are supposed to be visible in this figure, but they do not appear anywhere in the legend or on the map. It is possible that the wrong figure was referenced in which case this can be easily corrected.

As requested, KOPs closer to the project area have been depicted on smaller scale maps. VRM Classes for the project area are visible on Figure 3.9-2. Visual Resource Management Classes near the Proposed Project Area. Text has been revised to reflect such. The incorrect figure was referenced. Text has been corrected to refer the reader to Figure 3.9-2. Visual Resource Management Classes near the Proposed Project Area.

One issue that could be improved is the images used to represent visual impacts. Within some of these existing and simulated picture comparisons (e.g., 4.9-1, 4.9-5, and 4.9-6) the exact location of the Project within the viewshed is undefined. A simple circle or arrow identifying where the Project lies within these views would enhance the reader's understanding of impact assessments. In many of these cases, the existing and simulation look exactly the same. If the simulated components of the images (i.e., the WTGs) were lost in the creation of the document then the DEIS should be republished with the corrected view. If there is no error in the image representation, then many of these comparison photos are unnecessary and the impact can be deemed insignificant.

KOP maps depicting the locations of the KOPs have been updated to illustrate the exact location of the Project. Also Visual simulations were evaluated at the recommended size and hazy conditions were taken into account; therefore, the contrast ratings were correctly evaluated. BLM visual resources specialists reviewed these evaluations. As full size visual simulations (approximately 20x60 inches) cannot be included in the EIS due to size constraints, the visual simulations in the EIS have been updated and scaled to appropriately and accurately compensate for the use of the wide-angled panoramic view.

One missing component that could enhance the Visual Resources Impacts section is a case study of a similar project. There are large wind projects that have been developed in similar terrain and some documentation of successful aesthetic mitigations should be available. Where similar sized WTGs were installed, some photographs of the structures from distances that correlate to the KOPs would provide a better perspective than some of the simulated images presented in the DEIS. Public feedback on the impacts to aesthetic quality after the implementation of similar projects would also be beneficial.

Comment noted.

The attempted methods for assessing aesthetic effects are mindful of sensitive views but do not provide an adequate method for comparing alternatives. An improvement to this method could be the assignment of arbitrary numerical values to the aesthetic levels of strong, moderate, weak, and none. While these qualitative descriptors are an adequate representation of visual contrast effects, numbers could be used and summed to obtain an overall change in contrast for each alternative. Another potential metric could be the percentage of a given KOP view that is obstructed by either the construction phase or completed WTGs. This would aid in the evaluation of the two proposed action alternatives. With the current evaluation technique, assessment of diminished aesthetic impacts resulting from nine fewer WTGs and two miles less of road construction is not possible.

The BLM asserts that the visual impacts would be similar for each alternative.

Assessing the viewshed value at each KOP is difficult for the reader because the distinguishing aesthetic characteristics are not thoroughly explained. There could be better descriptions of form, line, color, texture and landscape contrast. The introduction of class II and III VRM areas is a useful way to assess different KOPs, but there is no description of which KOP belongs to each class. The addition of this information as a column to Table 3.9-1 would be sufficient. As a result, the reader is left with a paragraph description of each KOP to determine how protected the aesthetic value is. KOP 6 seems like the most sensitive, yet it lacks Though it is not a major issue, it might be useful to point out an unfinished sentence at the top of page 3-67. The text is published as follows: "The only visible manmade feature in the view is ." Considering that the views from this KOP are of high scenic value it should be noted which structure is in view and describe its appearance.

Text in Section 3.9.4.8 Selection of KOPs, on page 3-67 has been corrected.

The VRM is the area in which is visual alteration would take place, rather than the area in which the KOP photographs were taken.

Socioeconomics

The socioeconomic section should also be improved with a few additions and clarifications. First, there should be some justification for choosing a 3% discount rate and a 20% salvage value. Choosing these values is discretionary, therefore a sensitivity analysis of project costs to discount rate and salvage value should be included. The additional jobs that the Project would create is a good metric for comparing social costs between alternatives. However, it is not useful to see number of jobs reported with decimals (e.g., 47.9 jobs, page 4-102) and the values should be rounded down to the nearest whole number. It is also not mentioned how the estimate for jobs is generated or how much uncertainty is involved. Disclosure of the method(s) used to

Refer to Section 4.12-Socioeconomic Impacts for discussion of assumptions and methods. Salvage value based on estimate by project engineers.

generate all the socioeconomic data is needed to properly verify the results. Lastly, The economic costs and benefits, as well as job creation, for each action alternative should be added to the comparison of alternatives in tabular format to present key differences in socioeconomic factors.

Conclusion

The effort put forth in identifying all environmental impacts associated with the Project is appreciated yet minor additions to the analysis would improve the effectiveness of mitigation efforts. Overall, the report is compliant with NEPA procedures and appears to be written with the intent of NEPA in mind. The most beneficial additions to the analysis would include some form of surface water modeling and a detailed effort to sample water quality parameters before and after construction. The aesthetic section would benefit from clarity in KOP descriptions and a quantification of visual attributes that would show what is sacrificed for the extra 20 MW of power. Enhanced economic comparisons between the two action alternatives are also recommended.

Thank you for considering my comments,

Zachary Stanko

Comment noted.

Bard College at Simon's Rock
84 Alford Road
Great Barrington, MA 01230

Greg Helseth, Renewable Energy Project Manager
BLM, Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

Dear Mr. Helseth,

We would like to submit these comments for the Draft Environmental Impact Statement (DEIS) for the Searchlight Wind Energy Project (NVN-084626). We are concerned about the project for the following reasons:

1. Construction, operation, and maintenance of the wind turbine generators (WTGs) could have significant impacts on local wildlife which we feel the plan addresses inadequately. For example, the impact statement makes no mention of the indigenous sage grouse, which is known to be sensitive to the electromagnetic fields of overhead and un-insulated underground power lines, and as a result will not cross any areas where these power lines exist. This could be a problem because they could be restricted from moving to breeding grounds. In addition, given the ecological importance of bat species, we feel that Searchlight Wind Energy should provide more information about proposed bat mortality mitigation measures to the public.

The proposed project is outside of sage grouse habitat.

A Bird and Bat Conservation Strategy (BBCS) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy).

2. WTG construction is predicted to have distressingly large consequences on local vegetation. We would like to see additional efforts made to mitigate these effects, and protect against loss of habitat for local wildlife. We feel that the loss of such a large amount of desert tortoise habitat, in particular, is unacceptable and that current measures are not sufficient to prevent significant impacts to the local population of this vulnerable species.

Comment noted.

3. We believe that the DEIS failed to consider a full range of alternatives. The National Environmental Policy Act requires the Bureau of Land Management to examine alternatives outside of the jurisdiction of the lead agency. When a map of potential wind energy locations created by The Department of Energy's wind program and the National Renewable Energy Laboratory (NREL) was consulted, Searchlight, NV was revealed to have only "fair" potential to be developed for wind energy. In contrast, similar maps assessing potential for solar development clearly show that Searchlight is located in a solar energy hotspot. For this reason, we believe that with regards to renewable energy development at the Searchlight site, solar energy should be explored as a viable alternative to the building of wind turbines. A solar tower installation would take up less

The BLM considered a reasonable range of alternatives consistent with NEPA and BLM policies and procedures. Searchlight Wind Energy, LLC has conducted site specific testing (using Meteorological Data collected for 5 years) and determined that sufficient wind exists to support the project. Data collected from MET towers at the application site is proprietary information and is not available. The BLM will not typically analyze a non-Federal land alternative for a right-of-way application on public lands because such an alternative does not respond to the BLM's purpose and need to consider an application for the authorized use of public lands for renewable energy development. The BLM will not typically analyze an alternative for a different technology when a right-of-way application is submitted for a specific technology (e.g., evaluate a photovoltaic alternative for a concentrated solar power application) because such an alternative does not respond to the BLM's

space, present fewer hazards to local fauna, and have a greater capacity for energy generation.

In conclusion, we would like to request that BLM adopt a No Action Alternative for this project and that it designate the area as being inappropriate for the development of wind energy. However, we also would like encourage the federal and state authorities, as well as private companies, to invest in alternative opportunities for renewable energy generation around the Searchlight site, with particular emphasis placed on solar power as a safe and efficient substitute.

Regards,

Juliana Biro

Sarah Trachtenberg

Luke Stroehlein

purpose and need to consider an application for the authorized use of public lands for a specific renewable energy technology

Laughlin Meeting Transcripts

REPORTER'S TRANSCRIPT

OF

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

PUBLIC MEETINGS

Held at Clark County Regional Government Center

101 Civic Way

Laughlin, Nevada 89029

Tuesday, February 21, 2012

6:00 p.m.

Reported by: Angela Campagna, CCR #495

1 IN ATTENDANCE:
2 ROBERT B. ROSS, JR.
Field Manager
3 Bureau of Land Management
4 GREGORY L. HELSETH
Renewable Energy Project Manager
5 Bureau of Land Management
6 STEPHANIE LOCKE
Senior Environmental Scientist
7 New Fields
8
PUBLIC COMMENTS BY
9
DUNCAN FISHER
10 PHILLIP SMITH
THOMAS CASEY
11 RONALD VAN FLEET, SENIOR
WAYNE BUNDORF
12 JUDY BUNDORF
13
14
15
16
17
18
19
20
21
22
23
24
25

1 FEBRUARY 21, 2010

2 LAUGHLIN NEVADA

3 * * * * *

4 MR. ROSS: Welcome everyone. I may not use

5 the microphone but I'm Bob Ross. I'm the field

6 manager for the Las Vegas field office. Welcome to

7 this hearing on the Searchlight Wind Energy Project

8 Draft Environmental Impact Statement. Your comments

9 are really important to us and your comments will be

10 addressed in the final environmental impact

11 statement. I want all of you to know that we have

12 not made a decision, the BLM has not made a decision

13 on this project yet. So your comments will be very

14 important to us and we want to hear what you have to

15 say today.

16 I do want to welcome any elected officials or

17 representatives of elected officials and that would

18 include any tribal officials or their

19 representatives. And then we have a pretty small

20 group. Do we have any tribal chairman here? No,

21 okay. Why don't you just kind of maybe still kind

22 of tell us who you're representing, what tribe

23 you're representing, if you could, please.

24 MR. FISHER: My name is Duncan Fisher from the

25 Colorado River Indian tribes, actually, not really

Comments noted.

representing the tribes. I'm representing all of the Native Americans. That is the way I feel about it. I was mainly concerned about the project that is down south of Laughlin here, and I guess it's not going to be mentioned tonight, but that is what I'm concerned. And I'm here to meet the people that are going to be dealing with that area. So a lot of you folks probably will be dealing with it. But that's my concern is that the other project still in this area that you guys are looking at here, there is still concern on my behalf too. So I'm from a Native American point.

MR. ROSS: Thank you. Any other representatives of elected governments? Okay. With that, I will introduce Ron Van Fleet representing Fort Mojave Tribe as a monitor, tribal monitor.

MR. SMITH: My name is Phillip Smith. I'm a member of the Colorado Indian Tribe, Parker, Arizona. I don't live here. I just drove down there. I live in Needles all my life. And but my concerns is also up this area because our people used to live up this area long time ago in the past. It was still been there except they were all taken out by the soldier. We're not here for the right choice but taken out. And my concern is what was

Comment noted. Impacts to wildlife are discussed throughout Section 4.4-Biological Resources Impacts.

1 left out there in the desert what was really out
2 there, I still go out, I'll bring that up a little
3 later on. Anyhow, I'm a member of the Colorado
4 River Indian Tribe Arizona.
5 MR. ROSS: Thank you very much. Thank you for
6 coming and I'll introduce the BLM staff here. Greg
7 Helseth is the project manager for Searchlight Wind
8 Energy project. Greg will be providing about a 20
9 minute presentation on the project before we get
10 into your testimony, your comments. Stephanie Locke
11 is representing our contractors for the
12 environmental impact statement, and Stephanie will
13 be facilitating our meeting tonight. And we'll get
14 into the presentation real quick. But, once again,
15 your comments are very critical to this
16 environmental review of this project, and we do look
17 forward to hearing from you. We take your comments
18 very seriously and BLM will respond to each and
19 every contact in the final EIS. I don't know, it's
20 going to take us too long to set up for this
21 meeting, I think I'll turn it over to Greg. And
22 after Greg, Stephanie will go through some rules in
23 terms of how we'll conduct the rest of the hearing
24 tonight. So thank you.
25 MR. HELSETH: Thank you very much, Bob. Can

1 everyone hear me? Okay. I don't need the
2 microphone necessarily. Thank you everyone for
3 showing up this evening. We're here on February
4 21st, it's our first meeting on this project for the
5 Searchlight Wind, LLC project about wind turbines.
6 What is the proposed project. It's
7 approximately 200 megawatts of wind energy from
8 Searchlight Wind Energy, LLC, a wholly owned
9 subsidiary of Duke Energy.
10 The project will provide electricity to power
11 approximately 50,000 homes. An inter connect
12 switching station proposed by Western Air Power
13 Administrators would send that power to the grid.
14 The project is located in Searchlight. The yellow
15 square here is the town of Searchlight. The red,
16 the area in red is the proposed boundary or the
17 application boundary. I know it's a little hard to
18 see, if you can't see it up front or in the back.
19 Basically Las Vegas is right here. We're down in
20 here, and that is the town of Searchlight. It's
21 basically if it's going to be approved, it would be
22 163 acres. That red area is about 19,000 acres. So
23 you have from an application boundary and there from
24 there we pared down to what the actual turbines
25 where the area potentially affects. The land has

been segregated for mineral entry. We do this because if there is a mining claim put on the site during the application process, the mining claim would have the right of way. So we segregate the land for mineral entry so that any mineral -- basically that means for two years somebody couldn't put in an application for applying for minerals in that area in the red that I showed you back in here. So basically the area here in the red is the area that I'm talking about that has been segregated for mineral entry. It has to do with connection to processing the right of way application and it's only temporary segregation.

So what laws authorize the Bureau of Land Management to grant right of ways. Those would be the Federal Land Policy Management Act of 1976. Some information there, Section 211 of the Energy Policy Act 2005, there is a secretarial order 3283 enhancing renewable energy on public lands. Those are some of the things we have to work for for processing this application. So we're considering this project because we're responding to an application from Searchlight Wind Energy, LLC and Western Area Power for a substation. They were directed by the Federal Land Policy Management Act

1 to manage the lands on federal managed lands on
2 federal land for multiple uses. The Energy Policy
3 Act that I mentioned previously, it's a secretarial
4 order, the secretary of the interior has put out an
5 order saying he would like to see 10,000 megawatts
6 by the year 2015. So that is megawatts of renewable
7 energy non-hydro, so wind solar, geothermal, those
8 would all fall into that category.
9 So what is the decision to be made. The BLM
10 will decide whether or not to approve this right of
11 way application. As Bob mentioned earlier, we have
12 not made a decision on this application. If
13 approved, the BLM will also include mandatory
14 stipulations in the right of way grant. Those are
15 things that we would like to see done, mitigation,
16 stuff like that for specific parts of the project if
17 it's approved.
18 So what are the project components. There are
19 up to 96 wind turbine generators including the
20 concrete foundations, the underground electrical,
21 communication system and two electrical substations
22 with 8.7 miles of overhead transmission lines. When
23 the project originally started in 2008 when the
24 application came in, the application was actually
25 for 161 wind turbines, but during the time of

1 scoping there was a lot of people that were
2 concerned with that number of turbines, so it was
3 pared down to 141. And then that number was pared
4 down to what we have down today, either the 96
5 alternative, the 87 alternative or no action
6 alternative. So some more components of what we're
7 looking at is up to four meteorological towers. You
8 may have seen meteorological towers. They are about
9 198 feet tall. They have some guide wires. Those
10 have been up for three years measuring the wind
11 telling Wind Energy whether or not they have a good
12 resource. So those are currently up. They would
13 stay in the configuration if the project was built
14 as continuous monitoring devices as part of the
15 project. So it would be wrapped into the project.
16 Of course, there would be the need for operation and
17 maintenance building and access roads to get in and
18 out to the turbines.
19 What does a typical wind turbine look like for
20 this project? The applicant is selecting the
21 Siemens 2.3. Those are roughly 427 feet. When you
22 take the tip of the blade from the very, very top of
23 the blade to the ground, it's about 427 feet. It's
24 got a 331 rotor swept area and just to the nasal --
25 the nasal you're looking at 262 feet. So those are

1 basically the height of the typical turbine. What
2 you would have here is the typical wave that way
3 that the turbines are installed. First they
4 excavate down and then they put in the rebar and get
5 ready for concrete pour, and then they do a concrete
6 pour leaving the center cap up, and then they
7 reclamate [sic] the area back so that it basically
8 they backfill over the top of this. So this is all
9 below ground for kind of the base so that this has
10 good support. Also, included are a couple of lay
11 down areas. Those are just for staging and building
12 kind of go together like erector sets. The concrete
13 batch plant is for concrete making the concrete,
14 like I mentioned before, and getting it to the site
15 and portable rock crushers is making for aggregate
16 and fill. Any rock that is extra would be left on
17 site and then they would work with the minerals
18 group as to what to do with any of that rock. But
19 no rock would come off site.
20 So all the alternatives that are being
21 considered again are the 96, the 87 and no action
22 alternative. First map shows us the 96 alternative.
23 So here is the town of Searchlight. Here is a
24 cluster of turbines, some here and out here, this is
25 Cottonwood Cove, that goes to Lake Mahog down here,

1 and there is the Lake Mead National Recreation area.
2 And then this is the road that -- so Laughlin is
3 down here, but here is the road that comes up
4 through Searchlight. That is the first alternative
5 that we're looking at.
6 The second alternative looks very similar to
7 the first but it has less turbines so it has less of
8 an impact, less footprint, a lower impact footprint.
9 Most of the difference is right in this area of
10 where some of those turbines have been taken out.
11 So 87 and 96 you're only talking, what, nine
12 turbines there, but it is a reasonable alternative
13 for that.
14 Of course, the no action alternative is
15 possible where the BLM could select a no action,
16 meaning that basically we don't want to select the
17 project, there is too many environmental hazards.
18 So the right of way applications were received for
19 the Searchlight area. The area contains good to
20 excellent wind resources. The area is close to
21 existing transmission lines and the area topography
22 is suitable for wind turbine generators, so it's
23 really hilly. It does not suit well for solar,
24 because then you would have to go up and down and
25 shadows. So just this kind of topography is good

1 for a wind turbine site.

2 So concerns that were raised during the public

3 scoping meeting are some water supply issues and

4 these are some pages where we're going to find a lot

5 of that resource data. So back in scoping when we

6 did scoping, if you're interested in visual impacts,

7 you would find them around page 461. Basically this

8 just pretty much what this slide is for to tell you

9 where you can find that information on that stuff.

10 What we're in is in the NEPA process, this is really

11 right about where we're at. So this is why we

12 started back in 2008, 2009. We got those comments.

13 And then the applicant did a lengthy study for an

14 inter connect between Nevada Energy and Western

15 Power. And after we came back after that inner

16 connect study, we got the DEIS ready. We were able

17 to get the information together and we're right here

18 in the public meetings of this product came out on

19 the 20th of January. We'll take comments right up

20 until the 18th of April. If you have a comment and

21 just so long as it's postmarked by the 18th of

22 April, we'll still take that comment. After we get

23 through this process on the 12th, we're going to

24 move into what we call the FEIS. That is the final

25 environmental impact statement. What you have

1 before you today is the Draft Environmental Impact
2 Statement. Once we get a final done, there is a
3 little bit of time in between here where we
4 eventually reach a recorded decision, and that would
5 be signed by the secretary of interior, as I
6 mentioned earlier. So I want to thank you for your
7 attention. I'm going to turn it over to Stephanie
8 and the public comment period will begin shortly.
9 MS. LOCKE: As Bob said before, my name is
10 Stephanie Locke. And does anybody have any trouble
11 hearing me, because that would be the first time
12 ever. And, don't worry, I'm going to go over how
13 the rest of this meeting is going to go and we'll
14 have plenty of time. If you didn't fill out a
15 speaker registration card and you would like to
16 choose to speak, you're going to have time to do
17 that tonight. So this portion of the meeting that
18 we're moving into is to receive your comments. The
19 BLM wants to hear them. The floor will be yours and
20 each commenter will have three minutes to speak. I
21 have my colleague right here is Andy. I was going
22 to say my coworker but he's my colleague. Andy's
23 going to help us out and there will be a timer on
24 the screen that will flash three minutes. He has a
25 couple of cards, a green card that will be your

1 first two minutes of speaking, a yellow card which
2 just let's you know you have a minute left, and then
3 a red card when your time has been exceeded.
4 The BLM will not be answering questions during
5 this portion of the meeting. This is your portion
6 to make your comment. You can ask a question but
7 that question will be addressed in the final
8 environmental impact statement. If you wish to make
9 a comment during this meeting, there is a speaker
10 request card that you need to fill out. I have
11 three here, so we're going to have three people
12 speak first. If you choose, if you have just
13 decided that maybe, hey, I want to speak, just go to
14 the back table and fill out a card and one of my
15 coworkers or colleagues will run that right up to
16 me. Elected officials, I don't think we have any
17 elected officials here today, we'll go in the order
18 of the cards that we receive. Please be respectful
19 and courteous to everybody. They may have
20 difference of opinions. That is fine. This is the
21 purpose of this meeting is to get everybody's
22 opinion, okay.
23 Staff will be available after this portion of
24 the meeting if the comment period doesn't go too
25 long, and they can answer questions directly at that

1 time. As Greg and Bob said, written comments need
2 to be postmarked and to the BLM if you're sending
3 them by snail mail. If you're answering them
4 on-line, you can send them right on April 18th.
5 Just to let you know, there is some information on
6 the back sign-in table that directs -- that gives
7 you ways to comment so you can e-mail the BLM. You
8 can fill out a comment card and fax it in. You can
9 fill out a comment card and leave it here at the
10 meeting today, and you can fill out a comment card
11 and mail it in. All right. At this time let's take
12 a short two minute break. If anybody would like to
13 fill out a speaker registration card and has not
14 already done so, please go to the back table. I'm
15 going to organize these cards and then we'll start
16 with the comment portion.
17 (Short break.)
18 MS. LOCKE: Okay. Ladies and gentlemen --
19 Sean, did anybody else fill out an additional
20 speaker card?
21 UNIDENTIFIED SPEAKER: Not at this point.
22 MS. LOCKE: Also, I would like to mention, if
23 you do not wish to make your comment in front of
24 this group, we have a court reporter at the back of
25 the room here and she'll be happy to take your

1 comment during this portion of the meeting if you're
2 quiet. And then after this portion of the meeting,
3 of course, you can make your comment in private as
4 well, okay. And with that, Mr. Thomas Casey. And
5 just give me a minute so you get your full amount of
6 time and the podium is yours.
7 MR. CASEY: Thomas Casey. I tried my end to
8 keep this to three minutes. I'll run over. I want
9 to address my comments around the Lake Mead National
10 Recreation. Decades ago the land around the two new
11 reservoirs, Lake Mead and Lake Mojave were given to
12 the National Park Service to preserve, protect and
13 provide recreational opportunities for generations
14 to come, hopefully for many more yet to come.
15 Opportunities here include boating, houseboating,
16 fishing, hiking, camping, backpacking, bird
17 watching, hunting, back country exploration via off
18 road vehicle for those who would seek rest from
19 their busy world, a wilderness experience in this
20 stark but beautiful desert environment is available
21 here, and many do seek such an experience, 300,000
22 visitors a year by the report. And that's just at
23 Cottonwood Cove and the lake side slash water side
24 desert experience is much different outside the Lake
25 Mead National Recreation area we have. And nowhere

The potential impacts identified in the comment are described in the EIS in the following sections: Section 4.12-Socioeconomic Impacts Section 4.9-Visual Resources Impacts, and Section 4.11-Recreation Impacts.

1 is that more evident in Laughlin, Nevada. Just
2 south of the Lake Mead National Recreation Boundary,
3 I think a lot about Lake Havasu not far that stream,
4 what a desert lake experience that is. Then what we
5 have here in the Lake Mead National Recreation area
6 on Lake Mead and Lake Mojave, it is different here.
7 It is a special place in the Lake Mead National
8 Recreation area. And the National Park Service is
9 here to keep it that way and preserve what those
10 with great foresight have given us. Now comes an
11 energy development project, massive heavy industry
12 to be built on the lands directly adjacent to the
13 national recreation area, indeed, on its most
14 eastern boundary of the project would start one and
15 a half miles uphill from the entrance station on
16 Cottonwood Cove Road. Every time I would leave
17 Cottonwood Cove I would get to -- I would get to
18 stare at those -- these towers 427 and a half feet
19 tall, the transmission towers now in place six or
20 nine of them on one side of the road, 11 or 15 on
21 the other in the hill above and just over the hill.
22 And no more would I boat on Lake Mojave from
23 Cottonwood Cove or up lake from Katherine's Landing
24 from this direction from the south and not see the
25 hand of man on the skyline to the west. And in

1 those on that skyline in the Eldorado Mountain hills
2 dozen of these towers would be visible. And by the
3 way, at night, too, all these towers, every one of
4 them would be appropriately marked with FAA lighting
5 beacons for aviation safety.
6 MS. LOCKE: Thank you for your comment. Next
7 I would like to call Ronald Van Fleet.
8 MR. VAN FLEET: Ronald Van Fleet, Senior, Fort
9 Mojave Tribe. Just like to say that we're very
10 disturbed at this time as tribal member speaking for
11 Timothy Williams, we've gone through this over and
12 over again that the tribe was not invited to this
13 meeting. The tribe was not notified. 2008, yes,
14 they did a survey of the area. They weren't told
15 what was being built at that time. That is a sacred
16 area. There are villages that are in that area, I
17 think would run into the same problems we run in now
18 with the Genesis project down in Blythe where they
19 had to shut down. We're in litigation. Somebody is
20 going to make some money here. From the tribes with
21 the tribes, you know, that was contacted by another
22 person, another group that this was happening here
23 today and tomorrow up in Searchlight, you know,
24 there are artifacts. Just because we're on the Fort
25 Mojave tribe, we're not just allocated to that

The BLM consultation for Searchlihgt Wind Energy Project was formally initiated via letter correspondence on December 17, 2009. Letters were sent to the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Fort Mojave Indian Tribe, the Las Vegas Paiute Tribe, the Moapa Band of Paiutes, the Pahrump Paiute Tribe, the Hualapai Tribe, and the Fort Yuma-Quechan Tribe. At the time the DEIS was prepared, Tribal consultation was still underway. The Final EIS summarizes the consultation that was completed and the tribal comments that were received after the DEIS was written.

1 reservation boundary. Reservation boundaries do not
2 hold us to that land right there. We go from the
3 river to the ocean and to the ocean that way and as
4 far as up here up to Las Vegas, I guess in that
5 area. But my people come from Cottonwood. My
6 relatives come from Cottonwood. This is home, this
7 area you're talking about. And I've been following
8 spiritual running. We did spiritual running to
9 Ivanpah, from Ivanpah to Spirit Mountain, the spirit
10 trails run down this valley run through this valley
11 into Spirit Mountain into five, six, seven different
12 tribes honor that mountain right their, spirit
13 mountain right here Chemehuevi, and we're greatly
14 disappointed. And, you know, it's coming like a
15 landslide all the wind towers, the solar generators
16 I think the cultural depth right now they are in
17 Palm Springs the tribes are coming together with the
18 federal government so we can put all of our sacred
19 sites on the map so we can work with you. Yes, we
20 have some project on our reservation. Yes, we're
21 looking for wind power on our reservations but not
22 on pristine desert floor not -- you know, those wind
23 mills, they kill bats right where do they get the
24 DT's, the pressure from the blades will kill the
25 bats. And when you kill the bats, you cut off the

Comment noted. Impacts to bats are addressed in Section 4.4-Biological Resources Management.

1 cycle of life there. You don't have no bats, you
2 don't pollinate the trees. And if this is a
3 recreation area, then, you know, what are you going
4 to do with the cottonwoods? What about the trees on
5 the lake? The bats are pollinators. They pollinate
6 everything and that is just only one that Palm
7 Springs, there is like 300 birds a day that they
8 find from the wind tower with the Sierra clubs about
9 a month ago. You know, it's just not a good deal.
10 We need to research it maybe a little bit more.
11 Thank you.
12 MS. LOCKE: Thank you for your comment. Next
13 is Phillip Smith.
14 MR. SMITH: My name is Phillip Smith, member
15 of the Colorado River Indian Tribe, Parker, Arizona.
16 And I'm Chemehuevi. We're all up in area all around
17 the desert Barstow down to Palo Verde all the way to
18 Vegas Paiutes Chemehuevi Southern Paiutes. We have
19 a lot of them up that way. And my concern we're
20 talking about down here, yes, I was invited by the
21 BLM which Shoshones and Paiutes and what the other
22 tribes were at the Searchlight area when this first
23 came about, but we were only shown the towers out
24 there and talked a little bit about the towers and
25 talked about the other windmills that had come in.

We were never on the field trip. I don't call it a field trip. We asked about anybody doing any studies on the cultural sites. Yes, could you show us, well, the guy's on vacation now. So I don't know where they are at. So there you go, a lack of input. And since the summer heat was coming up, this was not a finished job; however, we're finding back and get to learn about some of these areas. I went out myself, seen the trail out there, seen turtle burrows out there. And I started to learn about the earth because we're from the area, the eagles, the eagles that is a little north of here and the sighting of a California Condor coming into this, the area, unconfirmed sightings, you put these big wind mills in there, what is the harm going to be to the eagles or these other things. And trenches for the turbines, you have also animals underground and for native people the animals can't speak for them self. They can't protect themselves. What about us? We just going to, what, just diminish them. No. Indian people don't look at it that way. These things are put out in the desert by the creator. He created the one that put these out in the desert. That's where it is to be all of these things. I know there is sites that cultural

Comment noted. Impacts to wildlife are discussed throughout Section 4.4-Biological Resources Impacts.

sites in the area and going to go out there and re-find them over again and don't like the idea that tribes were not really invited. They might say, yes, they were. You can't name what single tribe that put an input on this. I can count on that today, there is not one single tribe that put an input on the areas there because they are not properly contact, don't go to the tribe and meet with the tribe at their areas because this is government. The government the way you're doing it is not government to government the way I look at it and the rest of us. I see my time running short. I also want to know if this is another one of Obama's fast track project.

MS. LOCKE: Thank you for your comment.

MR. BUNDORF: My name is Wayne Bundorf. I live in Henderson, Nevada. I also have a home in the desert off the grid and this is really surprising to me that we like visualize what is going to happen there. I think that Cottonwood Cove will be kind of wiped off the map and let me tell you why, because it's a 14 mile trip in and back. The trucks which will have lots of trucks. I read in this in the report here 300 cubic yards of concrete. Each foundation would require

The BLM consultation for Searchlight Wind Energy Project was formally initiated via letter correspondence on December 17, 2009. Letters were sent to the Chemehuevi Indian Tribe, the Colorado River Indian Tribes, the Fort Mojave Indian Tribe, the Las Vegas Paiute Tribe, the Moapa Band of Paiutes, the Pahrump Paiute Tribe, the Hualapai Tribe, and the Fort Yuma-Quechan Tribe. At the time the DEIS was prepared, Tribal consultation was still underway. The Final EIS summarizes the consultation that was completed and the tribal comments that were received after the DEIS was written.

This project has been designated a priority project by the BLM.

The project plan of development describes two potential sources for the concrete necessary for WTG foundations; 1) purchasing it ready made and transported to the site, or 2) operating an on-site batching plant. If the former option is chosen, then the water for the mix would likely originate from a commercial concrete vendor. As there are no existing commercial ready-mix concrete companies in either of the three subject basins, the concrete would probably originate in Las Vegas Valley. If the on-site plant option is selected, then water for the mix would have to either be purchased from SWS, LVVWD, or be purchased from a willing seller.

1 approximately 300 yards of concrete. Now, when you
2 dig in a hard rock area, it's hard to dig the hole
3 just right and in here it's also mentioned possibly
4 engineered blasting. This means dynamite. And this
5 300 yards may change. We'll say it doesn't change
6 just for we got approximately somewhere between 87
7 and 97, we'll say there is 90 wind generators built
8 300 yards at 27,000 square yard cubic yards of
9 concrete. Where does the water come from? These
10 trucks going in and out if the batch plan is set up
11 on the hill, they go down the hill, they come back
12 up. People traveling there the road is supposed to
13 be 36 feet wide. The most dangerous thing we could
14 is drive in our car and the speed of the trucks will
15 be approximately 15, 20 miles an hour going down the
16 hill or coming up the hill, maybe less. The people
17 are used to driving about 45 on that road and this
18 will I think just prevent them from the front end of
19 going down there. They won't fight the traffic if
20 there is an accident. It can happen especially with
21 a job this size and roads blocked and they are down
22 there, then they can't get out. So this all runs
23 through their mind. Is there some place else they
24 can go, yes. They will go to another, they will go
25 to the Lake Mead National Recreation or come down

A Traffic Management Plan (MM-TRAN-1) would be prepared to address effects on local traffic. The Plan would include the following element: To minimize the effects on local and Lake Mead traffic the Transportation Plan will mandate the use of flagmen or escort vehicles to control and direct traffic flow, and provide schedules that show roadway work will be done during periods of minimum traffic flow. The Traffic Management Plan also includes making provision for access for emergency vehicles. The Traffic Management Plan would be a stipulation of the ROW Grant.

here because maybe it's their day off, who knows. That is just one part of the trucks, the concrete. The towers from what I've seen on the road, the towers there are three pieces, there is three more trucks. The blades they have double trailers that haul them. They are over 100 feet long and you can just picture the road is up at the top there is a very sharp curve and then it comes down. I don't know whether they are going to cut straight road down the hill or what is going to happen, but the blades are a big problem. And people will pass because they don't want to go 15 miles an hour and that is where we run into the possibility of accidents. Also, the generator itself is hauled in by trailer. Some of the machinery is giant coming in there. So there is a whole lot of things that I'm not covering. Rattle snakes, you should have some help if you get bit down there, because when you start grading they are going to dig them up. The rats are another thing. The desert is full of pack rat nests and they are going to come to town as soon as they hear you coming. Thank you.

MS. LOCKE: Thank you for your comment.

MS. BUNDORF: Judy Bundorf. One of my concerns is this is advertised as a 200 megawatt

Comment noted. Impacts to wildlife are discussed throughout Section 4.4-Biological Resources Impacts.

The proposed facility has a 200 MW design capacity. The proposed action is to construct eighty-seven 2.3 MW WTGs or 87 x 2.3 = 200.1 MW.

1 generating station or farm and that's the name plate
2 rating. Everything I read says that you'll be lucky
3 to get 30 percent of that number. So it will not
4 serve the 60,000 houses or whatever. It will serve
5 one third of that. Has there been any geology
6 testing, any drilling, any trenching? Because I'm
7 guessing that that granitic rock out there will be a
8 real challenge. And number three, I guess the
9 answer was, no, is there a power purchase agreement
10 between Searchlight Wind, LLC and any utility
11 company? And if there's not a power purchase
12 agreement, why would we do this? Thank you.
13 MS. LOCKE: Thank you for your comment, Sean,
14 was there any other speakers? Okay. At this time
15 we have time left in the meeting, so the BLM
16 specialist will be available to answer questions or
17 talk to you. If you feel like you did not get your
18 entire comment in your three minutes, there will be
19 the court reporter in the back of the room and this
20 court reporter will also be available. So you are
21 welcome to speak to either one of them to finish
22 your comment. Okay. At this time, Bob, would you
23 like to adjourn the meeting?
24 MR. ROSS: Thank you again for coming. Your
25 comments are very important to us. I do have

The existing Geological environment was presented in EIS Section 3.1-Geology, Soils, and Minerals. Geotechnical testing would be conducted at each WTG location prior to construction.

The Applicant does not have a current power purchase agreement. They have submitted an application for a ROW to BLM who is required to process the application in accordance with BLM, FLPMA and NEPA requirements.

1 business cards and I do respond to e-mail questions
2 and feel free to call me on the telephone at office
3 and Greg is also available to respond to comments
4 and thank you again very much. We'll be here and
5 available to talk with you as well, so thank you.
6 * * * * *
7
8 Attest: Full, true, accurate transcript of
9 proceedings.
10
11
12 ANGELA CAMPAGNA,
CCR #495
13
14
15
16
17
18
19
20
21
22
23
24
25

Searchlight Meeting Transcripts

REPORTER'S TRANSCRIPT

OF

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

PUBLIC MEETINGS

Held at Searchlight Community Center

200 Michael Wendell Way

Cottonwood Cove

Searchlight, Nevada

Wednesday, February 22, 2012

6:00 p.m.

Reported by: Angela Campagna, CCR #495

IN ATTENDANCE:
MARY JO RUGWELL
District Manager for the Southern Nevada District
Bureau of Land Management
ROBERT B. ROSS, JR.
Field Manager
Bureau of Land Management
GREGORY L. HELSETH
Renewable Energy Project Manager
Bureau of Land Management
STEPHANIE LOCKE
Senior Environmental Scientist
New Fields

PUBLIC COMMENTS BY

JOHN WEAVER
LAURA CUNNINGHAM
ELLEN ROSS
WAYNE BUNDORF
JON PALMER
ELEANOR SHOOK
KEVIN EMMERICIA
BRUCE DOBBIE
VERLIE DOING
KIMBERLY MCCOLERY

FEBRUARY 23, 2010

SEARCHLIGHT, NEVADA

* * * * *

MS. LOCKE: Good evening everybody. We're going to start the program in just a second. Can everybody hear me clearly in the back? Little louder, okay.

MR. ROSS: Welcome everybody. I'm Bob Ross. I'm the field manager for the BLM Las Vegas field office. Thank you for coming tonight and welcome to tonight's public meeting on the draft environmental impact statement for the Searchlight Wind Energy project.

This portion of the meeting is your opportunity to provide formal comments on the record to the Bureau of Land Management. I want to make it very clear that your comments are very important to the BLM. We have not made a decision on this project yet. So the public comment period on this draft environmental impact statement will continue until April the 18th. So you want your comments to be postmarked by that date and but your comments will be very helpful to us in making a decision on this project. And, in fact, we'll respond to every one of your comments in the final environmental

impact statement.

And the format of tonight's meeting is we have a short presentation and then we'll kind of go over some of the rules for the public comment period and your testimony and your opportunity to comment to us. And then we'll get right into your comments.

First I want to make some introductions. I don't think there are any elected officials or representatives of elected officials tonight. I did want to recognize any that might be here. Not seeing any, we'll kind of go on. We'll do some BLM introductions. I want to introduce my supervisor, Mary Joe Rugwell. And Mary Jo is the district manager for the Southern Nevada District office in my field office, Las Vegas field office is part of that district and these lands here are BLM administered lands that we both administer. Also with me is Greg Helseth, and Greg is the project manager for this environmental impact statement. Stephanie Locke is our contractor for the environmental impact statement, and Stephanie will also be facilitating the meeting tonight and calling people up to provide testimony.

So, once again, your comments are extremely important to us. We have not made a decision and

really what you have to say to us tonight will be carefully listened to and be very important for our process. If you haven't turned off your cell phones yet, please do that just out of respect to everyone. And with that, I'm going to turn it over to Greg Helseth who will do our presentation.

UNIDENTIFIED WOMAN: I want to make a comment. He asked about elected officials. I'm very proud of my brother. We do have one elected official. This is Judge Hill. He's the judge here in Searchlight.

MR. ROSS: Okay. Judge, thank you.

MR. HELSETH: Okay. Can everybody hear me all right? All right. My name is Greg Helseth on the Wind Energy project manager for the Southern Nevada district for the BLM. We're going to go ahead and get started with our presentation here on the draft environmental impact statement. We're in our second public meeting. Last night we were in Laughlin, so tonight here, tomorrow we're in Boulder City. So we're going -- we'll go ahead and get started.

So what is the proposed project. It's approximately it's a proposed approximate 200 megawatt wind energy facility by Searchlight Wind Energy, LLC which is a wholly owned subsidiary of Duke Energy. This project will provide electricity

to approximately 50,000 homes. Is this thing cutting out? The project will produce electricity to about approximately 50,000 homes. There would be a switching station so the turbines produce -- is this going to be all right? Yeah, okay. Feel so much better. So the turbines would produce the energy. They would send that energy through underground cables to substations. From there the substations would carry the power with overhead transmission to the interconnect station. The interconnect station would capture the power and put on the lines, the Western Area Power lines that you see south of Cottonwood Cove there.

So where is the project located. We're right here in this yellow square. That is Searchlight. The project application boundary is that red area, looks like a pretty large area, that is -- you're correct. That is about 19,000 acres. If the project is approved, that the project actual acreage of the project would be 163 acres combined. So that is roads, pads, turbines, the whole nine yards. So the rest of the land would be returned back to the BLM just to make that clear.

We'll take comments right after the presentation. Thank you. This land has been

segregated for mineral entry. What we've had in the past is while we're doing these applications for renewable energy, we've had mining claims filed on the site, so we segregated the land for mineral entry for two years only while we have time to do the studies to look at what this is about and then to come up with a final decision. So once there is a decision made on this project with recorded decision, it goes to a right of way grid, the mineral station would be lifted or at two years it would be lifted, whichever comes first. So just letting you guys know.

What laws authorize the BLM to grant right of ways. We've got the Federal Land Policy Act. We've got Section 211 of the Energy Policy Act and we've got the Secretarial Order 3283. Just had to look at it because numbers are jumbled up. Those are the laws that authorize the BLM.

So what is the BLM considering here. We're responding to an application submitted by Searchlight Wind, LLC. We are directed, we have direction from the Federal Land Policy Act and we have a Secretarial Order that I mentioned, 3283, the secretary of interior wants to see at least 10,000 megawatts of renewable energy, non-hydro, by the

year 2015 in the United States. So non-hydro electric renewable electricity, wind, solar, geothermal, those are the four that would constitute for that category.

So what is the decision to be made. The BLM will either decide to approve the right of away grant or not approve the right of away grant. It's pretty much the decision that we have. If we do approve the right of way grant comes with stipulations. Those stipulations would be things like reclamation of roads, replanning, replanting vegetation, any color pallet decisions that need to be taken care of. There is tortoise mitigation fees. There is a lot of different things that could come with a right of way grant. You would have to meet all of those stipulations before you get what is called a notice to proceed. So first you would have a recorded decision and then you would have a right of way grant. You would have stipulations at the very end, you get what is called a notice to proceed. The notice to proceed is what gives you permission to go ahead and do what it is that we granted, if we grant it.

So the project components are either 96 turbines underground, electrical collection systems,

a couple of substations, 8.7 miles of overhead brand new transmission line. I mentioned all of that prior. A switching station by Western Area Power is down on Cottonwood Cove. That is by the entrance station of the park service. You probably seen the new entrance station down Cottonwood Cove, if you traveled that way. And they would be permitted also up to four meteorological towers. Currently there is three towers up in this area. There is a couple when you go down to the lake you would see one on the left, see one on the right, and then there is one far south of town. They are about 198 feet tall and those are for collecting wind data. They have been up for close to three years now or a little bit longer than three years. And what they do is they give the applicant the data they need to see if there is a good wind resource here. Operation maintenance building, obviously, and some access roads like I mentioned. Were you able to see all right? Okay.

So a typical turbine generator for this project, typical turbine generator would be the Siemens 2.3. There is different companies that make wind turbines. GE is a manufacturer. Siemens is a manufacturer. Vestel is a manufacturer. The

applicant in this case is looking at the Siemens 2.3. That is what they mentioned in the DEIS. That model is 427 feet tall from the tip of the blade to the ground. Up to the tip of the nasal it's 262 feet tall and a rotor swept diameter is 331 feet. Typically when turbines are constructed they need to clear or excavate out about a 40 foot area and that's filled with rebar for reenforcement, and they pour the concrete in there and then they reclamate [sic] over the top or they backfill over the top so all they have left is a stub sticking out at the top. And these come in erector set kind of fashion.

The first part would be this part right here up to about halfway and that is what goes on that base right there where all those bolts are. So basically it sets down, they put big bolts on it and that is how they are constructed. The temporary components are some lay down areas because obviously you need to park the equipment somewhere. This also includes the analyzation or we've analyzed lay down areas. We have concrete batch plant that would be needed for making the concrete obviously, and then the portable rock crusher because as you excavate, you come up with rock and you can use that rock for aggregate or to backfill. If there is any left over

rock, it does not leave site. They would have to work with our minerals group then to determine whether or not that rock could leave site or if it just stays on site.

So the alternatives that are being considered are a 96 and 87 and a no action. If any of you were here back in 2008 when we first started scoping on this project, I think it was December of 2008 maybe. It was, yeah. It was December of 2008. The initial scoping period consisted of 161 wind turbines and then that has since been pared down to 140 which was pared down to 96 and 87. So obviously the wind resource in the area is good for wind turbines, but placement of the wind turbines was partially for the reason and partially for the scoping comment. The reason why those numbers were pared down to what the applicant chose which is 96, 87 and no action alternative. And I might note that the 87 wind turbine is the BLM preferred alternative.

This is what the map looks like of 96 wind turbines in the Searchlight area. You have Searchlight there in the white and all those dots are positions of wind turbines with roads and a little blow out pictures. There is also picture, big poster boards of this back here so that people

can see, and you can ask questions or whatever later on after the meeting. We can explain the detail and map. So there is the 96.

The 87 looks a a lot like the 96. It's only nine turbines fewer, less acreage and most of the turbines that the difference there are down Cottonwood Cove, that is where nine turbines would not be between the alternatives.

No action alternative is a possibility. We could deny the application and say there is too many environmental consequences and it's not a viable project. So that is an option for the BLM also.

The location is being considered, why is this area being considered. We received an application for the area from the applicant. It has good to excellent resources which is what the data has been saying. The area is close to existing close transmission lines. There is transmission lines over this way and that way. The applicant actually took about a year and did interconnect studies to make sure of where the best lines are for connecting to the power. And think of the transmission lines as freeways and sometimes those lines have enough power, you can't put anymore power on it. So you have to do the interconnect study to figure out

which power lines have accessibility or space for your power.

And the area topography is suitable for wind turbine generators. There were concerns raised during the public scope, as I mentioned, in 2008, water supply issues, air quality impacts, land use, affects on tourism. Those are the page numbers where you will find that information in the DEIS. We have DEIS hard copies. They have thumb drives, CD's. We have a bunch of knowledgeable people. If you have any questions, we have resource folks in the audience. After this portion of the meeting if anybody has any questions on any particular subject, either this is in the DEIS or one of the specialists can try to answer that as best as possible.

So where are we in this process is what we called the natal NEPA process. We're currently we're right there. We might be a little to the left of the arrow, but either way, we're starting at this process. On January 20th of this year we came out with a notice of viability for the DEIS. The actual project started in 2008. Now we're in 2012. We've come out with the DEIS which I told you about back here. Public comments are good until April 18th as Mr. Bob Ross had mentioned previously, they have to

be postmarked by that date if you send them into us. They have court reporters today, one in the back, if you want to make a comment in the back or one out here if you want to make comment out here, whatever it takes to get your input on this process.

After the public comment period, we analyze those comments, we look at our DEIS, and we start creating a final environmental impact statement. That final environmental impact statement goes through a series of reviews. Again, eventually it gets published with a notice of viability and there is a 30 day window before a recorded decision, whatever that decision may be is produced. Now, in this case with renewable energy project being the secretary of the interior has considered these highly important. So the secretary of interior is signing all records of decisions. So basically the recorded decision goes back to Washington, gets signed and the right of way grant is signed at our district level by Mary Jo and Bob Ross on a right of way grant, if the recorded decision produces a right of way grant. So that is it for the public for my speech. Hopefully I was loud enough and you can hear me and then we'll begin shortly.

So Stephanie is going to go over some ground

rules and then we'll adjust the podium so that any speaker comes up there, they are addressing their comments here to the BLM, and then we'll go from there. So Stephanie, thank you.

MS. LOCKE: I know you guys can hear me without the microphone, right? Okay. We're going to take a little break before we do the comment period. We have to turn the podium around and set up some things. I'm going to tell you how it's going to work.

If you would like to make a public comment during this time with the audience listening, you're more than welcome to do so. If you have not done so, please fill out one of these speaker registration cards and you can find those up front with my colleague Sean. And he'll run them up to me and that way we can call your name correctly. We are going to call people in the order that we received these. So if you would like to speak, get them in early. If you would like not to speak in front of everybody but still would like to make a comment on the record, we have a court reporter in the hallway and you can go make your comment to her, and she'll put it down and it will be addressed in the final EIS.

Also, to let you know, if you prefer not to make a comment by speaking, we have comment forms and those are also on the front desk with Sean. You're welcome to write your comment down and leave them here or this is handy dandy, you can fold them up, the BLM address is on here, just stick a stamp on there and you can send them to the BLM office. The fax number is on here also. One other thing we have up front is we have the e-mail address so you can e-mail your comment in. And then there is a whole information sheet on ways to get your comment to the BLM. And also stapled to the back of this just for your reference is a couple of FAQ's, frequently asked questions you might have and the answer just in case I know I always forget to ask questions, so that might help.

Give me one second to collect my thoughts, okay. So this portion of the meeting is for you to comment. Every commenter who chooses to come up here and address the BLM will have three minutes. This is so everybody has enough time and the same amount of time. In order to ensure that, the BLM will not be answering questions during this portion. All of your questions or comments will be addressed in the final environmental impact statement. I've

gone over the rest of these. If you would like to make a comment, please see Sean at the back table. And do we have any elected officials that would like to comment first? We're going so to call the elected officials if they'd like to speak, and then we'll start with the public comments. Please be respectful and courteous. By the way, this microphone does work fine. You just have to get close. But that might be helpful if you're facing them to make your comments. And, like I said, written comments must be postmarked if you're sending them by US Postal Service by April 18th. Okay. So give me a second.

One other thing to help you with the three minutes, I have another colleague, Andy. He's the tall gentleman standing back here. He's going to be sitting right in this chair here and he'll help you out with some cards. There is a green card, you have two minutes; yellow card when you have one minute left; and he'll flash a red card when your time is up just to give you -- I know I lose track of how long I talk. Go figure. And also we'll have a timer up on the screen. So give us about five minutes to set everything up and then we'll start taking public comments.

(Short break.)

MS. LOCKE: All right. If everybody would take their seats again, we're going to start the comment period. So Mr. John Weaver.

MR. WEAVER: My concern is that in the other wind energy generated areas, Palm Springs and Tepachi, they have put eight foot chain link fence with razor wire on top of it. That prevents any accident. I just want to know what they are going to do with the whole acreage. Are they going to close it all down and put chain link fence and razor around it and deny us access?

MR. ROSS: Let me reiterate what Stephanie said, this is your time to comment. We can talk to you after the meeting.

MR. WEAVER: I'm finished. You answer that, I'm happy.

MR. ROSS: I've got cards if you would like to call me or e-mail me too.

MR. WEAVER: Thank you.

MS. LOCKE: Just to reiterate what Bob said, at this point in time we only have eight speakers, so we should have time left after this public comment period, and there are BLM people here available to answer questions. But as Mr. Weaver

No fencing is proposed for the entire project area, only around the proposed western switching station and O&M facilities. Refer to Section 4.11-Recreation Impacts for a discussion on impacts to recreation.

just did, we'll answer his questions additionally in the FEIS specifically, okay. Next speaker is Laura Cunningham.

MS. CUNNINGHAM: Yeah. I've been following some of the solar power tower projects in California and on some of those teleconferences Wallace service has been asking them to do a minimum of three years of gold and eagle surveys for things that can kill eagles and he's also asking not just to do nest surveys but surveys for what they call floaters that individuals that don't have a territory to come through and also ground point surveys to look for juveniles. So that is just a comment that would be a really good idea to get an idea of what territories are here. Because he pointed out that in inactive nests cannot be used for several years and then they will be used again. So whether or not a nest is inactive may not give the number of territories, so thanks.

At the time baseline surveys were completed for the project, Nevada had no official policy or protocols for avian pre-project surveys so protocols were developed between BLM and NDOW.

MS. LOCKE: Thank you for your comment. Ellen Ross.

MS. ROSS: Good evening. I am opposed to any wind turbines. I do not want to see that in the Searchlight area. It's an outlying bedroom community of Las Vegas. It's a historic community.

Comment noted. Refer to Chapter 4-Environmental Consequences of the EIS for an evaluation of impacts to environmental resources.

It's one of the alternative routes to the Spanish Trail. There are archaeal sites, pictograph sites. It's also the fourth largest park, Lake Mead Recreational area, this Cottonwood Cove is one of the major entries and it's also the entry that most of the Californians take to come down to the river to go boating, hiking, canoeing, fishing, hunting. And they prefer this route from what my real estate clients tell me because they don't have to go into the hubbub of Lake Mead. They like the fact that there is a pristine area. It has not been polluted like Southern California and it is a major draw for people in also the Las Vegas area, point number one.

Number two, people want to buy property out here. Wasn't that long ago that the BLM had sections of land that they were going to dispose of because the economy was strong. We've been discussing this, this project four years just as long as this recession is going on. It's not going to help the property values for the people who have already purchased property here. And I'm one of those people along with several of my clients, I like Searchlight, and I do want to live here at some point and have a desert retreat. And right now we have a wind turbine plant 800 feet from the edge of

Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. A literature review on property value impacts has been added in Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

my property. And don't tell me that it's justified that you can measure to the center of the mining claim and that the property that goes to the edge of the property doesn't matter. My property is private property just like anybody else, and I'm incensed that the BLM would allow a wind turbine project to be this close to a bedroom community which has so much to offer to Las Vegans and the people in the other regions.

The other thing, where is the concern, you talk about desert tortoises. We talk about the birds. What about the communities and the people that live here? I think that people have to come first. If you want to start building solar projects and wind projects, you start your discussions here, not in Washington where it's just a tabled discussion. It's very important that you have respect for these outlying communities. Thank you.

MS. LOCKE: Thank you for your comment. Wayne Bundorf.

MR. BUNDORF: Good evening. I'm glad she talked about Searchlight, the Cottonwood Cove road. What I would like to talk about is the Oregon trails access to the Gasline Road. We have a gas line there that has been built in the early 60's. I was

Southwest Gas Corporation holds a ROW grant from BLM for an existing gas line within the project area. The grant is non-exclusive, i.e., the BLM reserves the right to authorize other actions within a ROW area for compatible uses. The Applicant will be required to coordinate with Southwest Gas should there be any pipeline crossings, e.g., roads, underground electrical collection systems, etc. The result of the coordination would be a legally binding agreement that such crossings would meet Southwest Gas-provided standards for engineering and applicable material requirements to ensure the safe and continued operation of the gas line.

here in 1958. I didn't work on it. I was in the Air Force. It was built in the early 60's. You're going to have heavy trucks pulling double trailers with 100 foot blades cutting into that area. You'll have construction scrapers going across it. If you break a pipe, a gas goes up in the engine compartment, you'll have one of your biggest explosions you can ever dream of. We'll go back to it can happen. It happened on September 11, 2010 in the San Francisco suburb of Sand Bruno on a Thursday evening. I'll read a small paragraph here. Sudden blast occurred leaving a crater measuring 30 feet in diameter and 15 feet deep. According to one estimate, the explosion fire zone of approximately 15 to 20 acres of the neighborhood in flames throughout the evening, and following morning by Friday afternoon reports indicated the blaze was 75 percent contained. Reports indicate 35 to 50 homes were completely destroyed and several more severely damaged with some of the injured and critical injured, the death toll from the blast could rise, the death toll was four people killed and 52 injured. This should never happen. This to me is -- I am in construction all my life and when you see something is bad, you just don't go there.

When these started I asked them will my home depreciate. They said it will be a viewing area. Cars will come here to view. This isn't true. Also, will they make noise. I was told the blades sound like rain drops hitting leaves. This is ridiculous. This between the Cottonwood Cove road situation, the access road over Gasline Road there, it's just not a good plan. The thing with this gas line out here, this local gas line is old, and I don't know how deep it is. The dirt ground I was told in some areas it's very shallow because of the hard rock. So this could happen here. If it does it would be bad. It would be real bad. Very briefly I would say 96 windmills, no 87, no, just no action on this project. And I would like to ask you one question but you won't answer. Have you ever voted no action.

MS. RUGWELL: Yes.

MR. ROSS: We can talk afterwards.

MR. BUNDORF: I'm done. Thank you.

MS. LOCKE: Thank you for your comment. Jon Palmer.

MR. PALMER: Good evening, Jon Palmer. I'm a resident of Searchlight. In fact, I live right behind us here. I've been coming down to the river

The potential impacts identified in the comment are described in the DEIS in the following sections: Section 4.12-Socioeconomic Impacts Section 4.9-Visual Resources Impacts, Section 4.11-Recreation Impacts, and Section 4.10-Noise Impacts. Additionally refer to Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines, which has been added to the EIS.

Refer to Section 4.10-Noise Impacts for a discussion on noise effects. Noise levels would not exceed the Clark County Noise Ordinance at residences.

The BLM has selected the No Action Alternative when evaluating prior NEPA documents.

Comment noted.

for about 30 years and after living in California, retired, decided I wanted to come out here. And I could honestly tell you if there were wind generation out here, I would never have bought property here and totally against this.

Next comment, I'm a volunteer firefighter. I'm the fire chief for station 75 Clark County in Searchlight. Past several years Las Vegas Valley Water District has been working to upgrade our water system. Some of our projects though expanded have been cancelled due to funding. We are on limited water supply here and I have made some inquiries into Las Vegas Valley Water about what the needs would be from our public source. And I would like to know what has been done as far as water requirements, where it is coming from and can Searchlight even provide the water to construction and building of this project. Thank you.

MS. LOCKE: Thank you for your comment. Eleanor Shook.

MS. SHOOK: Eleanor shook. Good evening. My name is Eleanor Shook and I'm on the town board. I have been -- this is my third term, so I have listened to all of this from the very, very beginning. And I left California 16 years ago and I

The Applicant will coordinate with the Las Vegas Valley Water District to support the water needs for the project. If sufficient resources are not available, the Applicant will procure water from local willing sellers.

Comments noted.

know Palm Springs area and the wind out there and I know what they have done to Palm Springs. I just was there not more than a year ago. They have destroyed Palm Springs with windmills. Palm Springs used to be the most beautiful green area you could go to in California, lots of golf clubs and golf carts and lots of country clubs. And when I was out there a year ago, the stores have been boarded up. I don't know what has happened to Palm Springs. But as you drive into Palm Springs, they are on both sides of the highways as far as you can see. It's the most awful thing I've ever seen. We moved up here to get out of Orange County, out of the smog, out of the traffic. We bought a boat for that lake, that beautiful lake and from my front porch which is right down the street, I look straight at Spirit Mountain. And the year that we moved up here the indian tribes had trucked out here to Spirit Mountain as kind of a special thing they do now. And then I can't imagine windmills between me and that view. It just can't happen here.

I'm not sure who requested it to come to this area. I think I heard you say that somebody requested it. I would like to know who requested it, because I can't imagine in 85,000 acres of open

BLM land in the State of Nevada that you would pick this one tiny little town that is still that is just so beautiful all on its own and the lake right down the road. And if you bring trucks down our little road out here on Cottonwood Cove, its only this wide and they surface it every now and then because the people with boats kind of tear it up, but can you imagine bringing trucks down that road carrying that weight and whatever it is they have in mind, I don't know, but I can't imagine. And I'm just a citizen here, and I don't want them. And I just like that lady back there, I don't want them here in my backyard. That's all. Thank you.

MS. LOCKE: Thank you for your comment. Kevin Emmericia.

MR. EMMERICIA: Thank you. I'm sorry. I'm having an allergy problem. Bear with me. My name is Kevin Emmericia. We have a small group called basin and range watch and we like to monitor big renewable projects on this. And we're concerned on the impact they have on the environment and small communities like this. First of all, I'll just say I'm disappointed that I didn't see another alternative in there. I would like to request that you have not to just no action alternative, but a no

BLM disclosed that streets could receive wear from equipment and deliveries and has required a mitigation measure to address the effect, specifically: MM TRAN-2: Repair Damaged Streets. Before construction, the Applicant, a BLM representative, and a local representative will document the condition of the access route, noting any preconstruction damage. After construction, any damage to public roads will be repaired to the road's preconstruction condition, as determined by the local representative and BLM.

Comments noted.

action alternative that designates this area inappropriate for wind energy because it's a visually stunning area. Everybody is saying that this project will be highly visible from not only Lake Mead National Recreation area and local wilderness areas but also in the Mojave National Preservation you will be able to see this both in the daytime and nighttime. Your visual simulations in the draft DEIS are not adequate. They don't have enough contrast to them and they don't really do the negative justice that will actually do to the view of this area that this project will do to the view of this area.

I'm also concerned about wildlife. You found a lot of desert tortoises in this area and this is not a solar project. It won't be like the Ivanpah project and totally remove the habitats. The very large road will fragment the habitat and cause invasive like Heron mustard to come in that causes fire hazards and whatnot. That is not good for the wildlife. You found big horn sheep here and this will actually fragment the habitat for them, and over the long period of time people come here to see the wildlife. There is Austrian big bird you found, golden eagle about five miles from the project that

Visual simulations were evaluated at the recommended size; therefore, the contrast ratings were correctly evaluated. BLM visual resources specialists reviewed these evaluations. The visual simulations in the EIS have been updated and scaled to appropriately and accurately compensate for the use of the wide-angled panoramic view.

Comment noted. Impacts to wildlife are discussed in Chapter 4.4-Biological Resources Impacts.

is going to create a problem for you. You'll have bird kill here and that is going to be sad.

So aside from that, I would like to point out what this project will do to the community. They will bring a lot of construction jobs basically from somewhere and it will employ a lot of people for maybe two years. People will go away and you'll have maybe five full-time jobs for this project, maybe five to ten. And is this worth it to do that because somebody like myself, I like to come to the Cottonwood area. It's a beautiful place. I don't think I'm going to come back if they build their project. The view for me is going to be ruined and I don't think I'm going to spend my money in this community. And I think this community has a better future with tourism than it does with the very large wind project. So I'll leave it at that and bear with me with my allergy attack but bye.

MS. LOCKE: Thank you for your comment. At this time we have no other participants that filled out a speaker request card. I am going to point out again that we have this court reporter will be available after the session to take your comments. We also have another court reporter in the hall. We do have time left, so BLM staff will be available to

Section 4.12-Socioeconomic Impacts under Economic Impacts address employment effects. Section 4.12-Socioeconomic Impacts has been updated to include a discussion on Impacts on Recreation and Tourism.

answer questions and they are wearing name tags. And I would like to turn it back over to Bob Ross. And if you still would like to make a comment during the rest of this meeting, we can do that, fill out a speaker registration card and let me know.

MR. ROSS: Thank you very much for attending, and I do have my cards here and I do answer my e-mails and my phone number is on here as well. And I will be available to talk after -- well, right now and so will the other BLM people. And there is a lot in the back there. We didn't introduce them, but if you have an interest, we can find the right person to answer your question. So thank you again for coming. Your comments are very important to us. April 18th is the deadline and, please, send us every bit of your thoughts and ideas on this project. Thank you very much.

MR. DOBBIE: Bruce Dobbie. Well, I am a resident here for the past 12 years. I have been coming to this area primarily for boating purposes. I love the desert. I love this area. It's so clear and clean and wonderful. My big concern is in hard rock country especially putting in these pedestals for these windmill projects, each individual windmill will require 100,000 tons of cement. A lot

The Applicant will coordinate with the Las Vegas Valley Water District to support the water needs for the project. If sufficient resources are not available, the Applicant will procure water from local willing sellers.

of water is required. We're not sitting on the Pacific ocean here. These are aquifers. It is limited. And where are they going to get the water? I don't know. But if they take out of this ground here, we're already seeing our aquifers going down as it is over the past 10 years, I've noticed it.

Another area of concern of mine is blasting. They are going to have to be doing blasting. This is hard rock mining country. They have to blast to put these pedestals in. They are going to start destroying peoples' homes, damaging windows, God knows what, what other form of damages will be done because of it. I think that is it.

MM-NOI-1 updated to include that blasting will be limited to 8am to 5pm weekdays only. Areas will be quarantined prior to blast activity.

MS. DOING: Verlie Doing. We came here in 1967, 44 years, developed our family and raised our family and now we're raising great grandchildren. It's a peaceful nice community, wonderful place to live and ideally situated for recreation and everything you can do. We're only since the new highway is in we can get the Searchlight and we do Henderson or Boulder City in 45 minutes on the road. But, anyway, the Cottonwood Cove is the most beautiful spot on the Colorado River and there are more people who come there to fish and they live in the trailers around there.

Comments noted.

.

We built when we first came a very small business here, and after 10 or 12 years we built this Searchlight Nugget that is on the corner as you come into town. And it's just a really good place to live. We have survived the turtle thing through the years and other things that have happened, but this is something that I do not feel that we'll survive. And we've bought a great deal of property here which we have sold at reasonable prices through the years when somebody wanted to live, and we expected that to go on for even my children and grandchildren.

Now, I have made up my mind, I have a lot of undeveloped property and I'm not going to pay taxes on that property for three years if the county commission votes for this project, I'm going to give it back to the county. I don't want it anymore. It will not be worth a quarter to people who have come to Searchlight for reasons that they have always come, for peace and quiet and recreation and clean air and nice people. The tax thing is only on the undeveloped property. I have several properties of houses and they are the ones I'm not going to pay taxes on, businesses and that.

MR. HELSETH: I will analyze the effects of

Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. A literature review on property value impacts has been added in Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

magnetic fields from the turbines in the DEIS and there will be a transcript then. We'll read that transcript and that will be analyzed in the FEIS.

MS. MCCOLERY: Kimberly McColery. I have just my main issue is the hazard of, you know, our health, physical, mental, you know, anything that is going to happen, I want to make sure that it's something that is not going to cause health problems later on for my children that will go to be living next to this. When I pass away they get the property. Is this going to, you know, what I mean, years down the road, I want to make sure that stuff like that is not -- also want to know how they decide after the many years that they are going to have this project. Say they are leasing this property for 20 years, how are they going to replace the floral that we lost, you know, the trees, everything. You've got the eagles. We do have them. We have pictures that we have sent to them, sent to him so he knows we do have them. But that is more of my concern. I want to know what is going to happen with the floral. You know, is it going to stay the way it is? How long are they wanting to have this project? You know, are they only leasing it for so long, or are they going to have it, is it

an unconditional forever, forever will they be able to build on, this kind of thing. Thank you.

* * * * *

Attest: Full, true, accurate transcript of proceedings.

ANGELA CAMPAGNA,
CCR #495

Searchlight Private Comments

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

PUBLIC MEETING

Wednesday, February 22, 2012

6:00 p.m.

Held at

Searchlight Community Center

200 Michael Wendell Way

Cottonwood Cove

Searchlight, Nevada

REPORTER'S TRANSCRIPT OF PROCEEDINGS

Supplement to Public Meeting Presentation

Public Comments Made Privately

I N D E X

PUBLIC COMMENTS MADE PRIVATELY BY:

Ellen Ross

Thomas Casey

Russ Coon

REPORTED BY: DANA J. TAVAGLIONE, RPR, CCR 841

LAS VEGAS, NEVADA; THURSDAY, FEBRUARY 22, 2012

5:48 P.M.

-oOo-

Thereupon --

(The following comment was given at 5:48 p.m.:)

MS. ELLEN ROSS: My name is Ellen Ross, and I've lived in Las Vegas for 35 years. I am in the real estate industry, and I'm here this evening because I own property in Searchlight, various mine claims and parcels, as well as I've sold numbers of vacant parcels of land to real estate clients.

I am very disturbed by the idea of putting an industrial wind farm around Searchlight. It's within very close proximity to several of these privately owned parcels, one of them being my own, where the wind turbine would be approximately 800 feet from the edge of the property. The wind turbines are projected to be 435 feet tall, with blades 165 feet long.

The impact with such an industrial wind farm affects the environment visually; also, the noise of the blades rotating around; and they also are an obsolete design. There are definitely more modern designs than the designs that they have picked for this particular wind farm.

The setback is in conformance with BLM Instructional Memorandum 2009-043, which states that no turbine on public land will be positioned closer than 1.5 times the total height of the wind turbine (approximately 640 feet) to the right-of-way boundary.

The BLM will not typically analyze an alternative for a different technology when a right-of-way application is submitted for a specific technology (e.g., evaluate a photovoltaic alternative for a concentrated solar power application) because such an alternative does not respond to the BLM's purpose and need to consider an application for the authorized use of public lands for a specific renewable energy technology.

Also, you have to conduit the electricity underground, which means that you are running electricity all the time as the wind is intermittent. I don't know what the bottomline net result of creating energy this is going to create, because the wind is probably going to be of value maybe 35 percent of the time.

Comment noted.

The whole concept of an industrial wind turbine farm in a desert community like Searchlight is absurd. Searchlight and Cottonwood Cove Road are the entry to the Lake Mead Recreational Area, which is the fourth most highly visited national park in the U.S.

People from California specifically target this particular entry through Cottonwood Cove so that they don't have to get in with the rush of Lake Mead, and building turbines going down to the Lake Mead Recreational Area is going to be visually an eyesore, and it's going to also be a huge construction hazard while or if the project is ever built.

Comment noted. Refer to Chapter 4-Environmental Consequences for a discussion on the environmental impacts of the proposed project.

As far as real estate values go, an industrial wind farm is not where anybody wants to live. It has a flicker factor which disturbs your sleep, the dark and the light shade as the blades go

The American Wind Energy Association (AWEA 2004) states that shadow flicker is not a problem during the majority of the year at U.S. latitudes (except in Alaska where the sun's angle is very low in the sky for a large portion of the year).

round, the noise; the birds that are killed by these things, just the wildlife patterns that are upset in an ecosystem which, until now, has been very pristine.

I feel that the whole project is placed in error, is going to reduce prices, real estate values by about 50 percent. I've talked to a few appraisers in areas that have been impacted, communities that have been impacted by industrial wind farms. People just have to leave the communities, and the land is devalued by at least 50 percent.

And this is not acceptable, considering that this is being put on government land that is supposed to be for the greater good of the people in Nevada. We need to protect our resources. We need to utilize our sun in a more creative, realistic manner, such as distributive solar generation.

Putting solar panels on rooftops in sunny Nevada would be a far more logical and cost effective idea. It would also be an incentive to new homeowners who are purchasing a home that might be able to become part of the green energy movement by having some solar on their rooftops.

We have a solar panel factory going in in

Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. A literature review on property value impacts has been added in Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

The BLM does not need to analyze in detail an alternative for distributed generation because such an alternative would not respond to the purpose and need to consider an application for the authorized use of public lands for a specific renewable energy technology. Additionally, the Energy Policy Act of 2005 established a goal for the Secretary of the Interior to approve at least 10,000 MWs of electricity from non-hydropower renewable energy projects located on public lands. The Act reflects Congress's conclusion that installation of renewable energy technologies on the public lands capable of producing at least 10,000 MWs is appropriate. Moreover, as described in the EIS, the Department and the BLM have issued policies and guidance promoting the development of renewable energy development on BLM-administered public lands. Given the current state of the technology, only utility-scale renewable energy generation projects are reasonable alternatives to achieve this level of renewable energy generation on public lands. Furthermore, the BLM has no authority or influence over the installation of distributed generation systems, other than on its own lands. The BLM is evaluating the use of distributed generation at individual sites through other initiatives (Executive Order 13514 and DOI implementing actions).

Laughlin. So let's get a game plan together that makes sense for Southern Nevada. Wind farms are a thing of the past and very destructive to the existing communities where they are developed. I would like to think that we have more respect for our Mohave Desert, which is a relatively pristine area. It's also part of the Spanish Trail, which has various petroglyph areas.

And I find it highly offensive that small outlying communities which surround Las Vegas should be targeted as a source to generate more power -- to go where? We don't even know if this wind farm, which is being developed by Duke Energy, has a Power-Share Agreement.

The creation of an industrial wind farm, which is being proposed by Duke Energy, which will receive various subsidies, is nothing but a green bubble for energy companies to increase profits temporarily and then turn the project over in another five years to another corporation that will also get the five-year write-off of their development period.

In closing, I just feel that it's criminal to take a small historic community that has the potential to develop as an interesting bedroom community. It has a lot to offer. The hiking, the

Refer to Section 4.5-Cultural Resources for an updated discussion of impacts to Cultural Resources.

Comments noted.

kayaking and boating and fishing on the lower Colorado River, and an industrial wind farm does not belong in this location.

THE REPORTER: Okay. Thank you very much.

(The following comment was given at 5:58 p.m.:)

MR. THOMAS CASEY: Thomas Casey.

I want to talk tonight about bats -- but, unfortunately, about the bat destruction here. These wind turbine machines kill bats. Blade strikes and baritone are the culprits. These little mammals' internal organs are too small to cope with the abrupt air pressure changes around wind turbine blades, and their little organs burst, and they are toast.

This is an awful consequence of wind power generation and is well studied and documented. With Searchlight's rich mining history, it's also true that this area is filled with abandoned mines and diggings. Answer this pamphlet. It's a BLM pamphlet. "Needles Field Office. Mohave Desert Bats. Abandoned mines are for bats, not people."

Let's read on. (Reading) Subterranean bats program. Bats in the desert choose roosting sites that might surprise you. They often roost in abandoned mines and associated structures. The

Comments noted. Impacts to bats are discussed in Section4.4.5.8-Bats - Direct and Indirect Effects by Alternative. A Bird and Bat Conservation Strategy (BBCS) was developed for the project, which follows the guidelines of the recently published USFWS Land-Based Wind Guidelines (Appendix B-4: Bird and Bat Conservation Strategy).

Needles Field Office has done several projects in recent years to protect bad habitat.

We'll read down further. (Reading) Abandoned mines serve as roosting habitat for several bats considered BLM sensitive and California Department of Game, Fish and Game, species of special concern. More than half of the 45 bat species in the U.S. are in rapid decline or already listed as endangered. Two thirds of these bat species roost in mines. 30 of them roost in mines.

Well, BLM, with what we find here in your literature, are you willing to bring these bat killing machines to an area with all the natural habitat and all this manmade habitat that bats here take advantage of? BLM, with bats using this additional habitat, this would be the perfect spot for a wind turbine project, for the wind turbine project like you propose, should you want to kill more bats, increased numbers of bats.

Indeed, BLM, are you looking to hasten the already rapid decline of half of the 45 U.S. bat species and affect more severely the 30 species that roost in mines and further harm those species considered BLM sensitive?

THE REPORTER: Thank you very much.

(Discussion off the record.)

(The following comment was given at 7:22 p.m.:)

MR. RUSSELL COON: My name is Russell Coon. I'm a resident of Searchlight, actually on a mining claim out of town.

And I'm deathly, or shall I say I'm very much against the wind turbines. Their impact on the environment will never be repaired. The impact on the human race, animals, and other things cannot be calculated because they don't have enough background knowledge to say it's not harmful or it is harmful.

And the cost of construction, the way they have it proposed presently, would be ten times than what it would be if you put it out on the desert flatland or in the Eldorado Valley by the present substations they have there in the Eldorado Valley. They already have two solar farms out there, one thermovoltaic and the other photovoltaic. The two solar farms is what they are, rather than wind.

And that's about all I could say is that very, very much against it.

THE REPORTER: Thank you very much.

(Whereupon there were no more Public Comments to court reporter after 7:32 p.m.)

-oOo-

Refer to Chapter 4-Environmental Consequences of the EIS for an evaluation of impacts to environmental resources.

1 CERTIFICATE OF REPORTER

2

STATE OF NEVADA)

3)SS:

COUNTY OF CLARK)

4

5 I, Dana J. Tavaglione, a duly commissioned

6 and licensed Court Reporter, Clark County, State of

7 Nevada, do hereby certify: That I reported the

8 proceedings had in the above-entitled matter at the

9 place and date indicated.

10 That I thereafter transcribed my said

11 shorthand notes into typewriting and that the

12 typewritten transcript of said proceedings is a

13 complete, true and accurate transcription of said

14 shorthand notes.

15 IN WITNESS HEREOF, I have hereunto set my

16 hand, in my office, in the County of Clark, State of

17 Nevada, this 2nd day of March 2012.

18

19

20

_____

DANA J. TAVAGLIONE, RPR, CCR NO. 841

21

22

23

24

25

Boulder City Meeting Transcripts

REPORTER'S TRANSCRIPT

OF

PROPOSED SEARCHLIGHT WIND ENERGY PROJECT

DRAFT ENVIRONMENTAL IMPACT STATEMENT

PUBLIC MEETINGS

Held at Boulder City Library

701 Adams Boulevard

Boulder City, Nevada 89005

Thursday, February 23, 2012

6:00 p.m.

Reported by: RENE' HANNAH, CCR #326

IN ATTENDANCE:
ROBERT B. ROSS, JR.
Field Manager
Bureau of Land Management
GREGORY N. HELSETH
Renewable Energy Project Manager
Bureau of Land Management
STEPHANIE LOCKE
Senior Environmental Scientist
New Fields
NANCY CHRIST
NEPA Coordinator
Bureau of Land Management

PRIVATE COMMENTS BY
ELLEN ROSS

PUBLIC COMMENTS BY
ELLEN ROSS
JUDY BUNDORF
JAMES EATON
JOHN HIATT
THOMAS CASEY

FEBRUARY 23, 2012

BOULDER CITY, NEVADA

PRIVATE COMMENTS

MS. ROSS: My name is Ellen Ross, R-O-S-S. I am vehemently opposed to the Searchlight wind turbine project. I'm a real estate broker and I am currently selling short sales and foreclosures because there is no land market, but just a few years ago I was selling parcels in and around the Searchlight, Nelson area to people from other parts of the west that wanted to purchase land that was like a desert retreat where you would buy anywhere from, say five acres to 20 acres of raw, unimproved land, and beautiful vistas and open views of Joshua trees and mountains and wildlife. And with this project coming into Searchlight, this is heavily impacting the purchase of my clients' property. And I also own property in this area. And I'm very highly offended by the concept of placing 86 or 97 wind turbines within close proximity to the private property these people have paid for. And, for instance, in the area where my property is there are three or four of us that have turbines very close. It's 800 feet from the edge of my property. That is totally unacceptable for 40-story wind turbines,

Comments noted.

which is 463 feet tall with blades that are like 300 feet wide that are going around. And that also are conduit by underground electricity. Because they can't run by themselves, we have to pay for the power to keep the wind turbines going until they kick up their wind speed. So the whole project is financially, it's not feasible. It's being subsidized by our money, and then the corporations who get these projects such as to Duke Energy who created this nightmare, they get to roll it over to another company after the first five years and that company gets the five years of tax write-offs. So it's a continual stream of, you know, benefits to corporations. There is no benefit to the community and there is no benefit to private ownership. And it's been time we started, you know, taking a stand for people who live in small, outlying communities outside of Las Vegas. This is part of the asset of southern Nevada in that we have rural area with pristine Mojave Desert area for hiking, biking, kayaking, sailing, boating, fishing, that we honor that and take care of it instead of destroy hundreds of thousands of acres with ineffective methods. It destroys the property values. I mean, I'm not making this up. It will destroy the property values

by 50 percent. Have you ever heard anyone ask you, "I would like to buy land next to a wind turbine"? Once you devastate the ecosystem and separate things like this, it's going to be gone forever. And it will shut down Searchlight and it will shut down Cottonwood Cove, because nobody from southern California wants to drive all this way and go through this lined tunnel of wind turbines. That's why they're leaving southern California and trying to buy land for second homes in an outlying area outside of Las Vegas. So I find it highly offensive, I mean, to the extent that I find it criminal that we can't protect our own desert areas. Boulder City wouldn't put up with this.

And then this is crisis management. In my ever to be humble opinion, it's crisis management from the context of yes, we do need alternate energies, but it's not going to happen overnight. And whatever changes we make are going to have to be a slow, gradual process to weed out the ones that don't work. We already know wind turbines are highly offensive, destroy the environment, birds, the wildlife, the communities, the people, and there are better ways to go. And those processes are unfolding. They are creating a solar photovoltaic

Section 4.12-Socioeconomic Impacts has been updated to include Impacts on Property Values. A literature review on property value impacts has been added in Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

factory down in Laughlin. So I would rather see distributed solar energy on rooftops and pools. It would be a better way to go than carving up the entire desert. It's political madness.

PUBLIC MEETING

MR. ROSS: Let's get started. We do have a microphone for your comments and we'll have that set up, I think when we do that part of the presentation. But I'm Bob Ross. I'm the field manager for the BLM Las Vegas Field Office. And welcome to tonight's public hearing on the Draft Environmental Impact Statement for the Searchlight Wind Energy Project. I want to let you know that your comments are very important to us. BLM has not made a decision on the project yet, so what you provide us tonight will really help us with our decision-making in terms of what alternatives to pick, those kinds of things, what kinds of terms and conditions to place on an authorization, if this is authorized.

So I'm going to start with a few introductions. With me tonight is Nancy Christ, and Nancy is going to be giving the BLM's presentation. That's going to take about 15 minutes, I believe, something like that. And another name that you

probably have seen a lot of, Greg Helseth. Greg is the project manager for this project. And Greg works for Mark Spencer. Mark's in the back there. Mark kind of oversees, supervises our Renewable Energy Coordination Office in Las Vegas. And Stephanie Locke is our facilitator. She's the contractor that works on the environmental impact statement for this project. I also wanted to recognize Congressional, any kind of elected officials or their representatives. I know Sara Moffitt (sic), you're here representing Senator Reid. Brian Wilson is also here. Brian. Brian Weaver. Sorry. Yeah. Okay. Brian Weaver is here with Congressman Heck's office. Thank you. And any other elected officials or representatives of elected officials tonight? I just want to once again reiterate that your comments are very important to us and we are really looking forward to hearing from you.

Stephanie has some ground rules for the public hearing portion of this meeting tonite. She'll go after Nancy. But Nancy, it's your turn now, so I'll turn it over to you.

MS. CHRIST: Thanks, Bob. Good evening, everyone. My name is Nancy Christ. I'm the NEPA

coordinator with the BLM. I work for the Renewable Energy Coordination Office. I work exclusively on renewable energy projects. I'm here tonight to present a brief project overview of the proposed Searchlight Wind Energy Project. So let's get started.

So what is the proposed project? Well, if approved, the project would authorize Searchlight Wind Energy, a wholly-owned subsidiary of Duke Energy, to develop an approximately 200-megawatt wind energy generation facility and all necessary associated infrastructure. It will also authorize Western Area Power Administration to develop an interconnecting switching station which would transfer the power generated from the wind energy facility to the existing Western Area Power Administration transmission grid. So if approved, the project is capable of producing enough electricity to provide, or to power 50,000 homes.

So where is the proposed project? Well, as you can see on the map here, this red area is the proposed project area. It's located adjacent to Searchlight, Nevada, which is the yellow block right there. Searchlight is approximately 50 miles southeast of Las Vegas. It's also 40 miles north of

Laughlin and about 1.5 miles from the western border of the National Park Services Lake Mead National Recreation Area. So this area in red is the right-of-way application area. It consists of approximately 19,000 acres. However, if approved, the project would only occupy approximately 163 acres. So these additional lands in the right-of-way application area would be returned to the BLM.

What is mineral segregation? Well, mineral segregation as applies to this project means that no new mining claims can be filed in the right-of-way application area for a period of two years while BLM is considering this project. So mining segregation is temporary, again, a maximum of two years and it does not affect any valid existing mining claims. So what laws authorize the BLM to grant rights-of-ways? Well, actually there are several laws that authorize the BLM to grant rights-of-ways, and there's a list of them here. The Federal Land Policy and Management Act requires the BLM to manage the land it administers for multiple uses. The Title 43 of the Code of Federal Regulations, that provides overall right-of-way guidance, including how to process wind energy

right-of-ways. Section 211 of the Energy Policy Act established a goal for the Secretary of the Interior to approve 10,000 megawatts of non-hydro-powered renewable energy projects, meaning solar, wind, geothermal projects, by the year 2015.

And finally, there's Secretarial Order 3283 enhancing renewable energy on public lands. And that set a priority for the entire Department of the Interior, which includes the Bureau of Land Management, the National Park Service and the U.S. Fish and Wildlife Service to develop environmentally responsible renewable energy.

So why is the BLM considering this project? Well, in accordance with those laws on the previous slides, the BLM is required to respond to the applications they receive. What is the decision to be made? At the end of the EIS process the BLM will decide to approve or deny the right-of-way application. If the project is approved, the BLM will also determine what mandatory stipulations would be required in the right-of-way grant. Some examples of these would be an avian and bat protection plan; desert tortoise monitoring before construction, during and after; and a traffic safety plan to insure public safety on the road that will

be used for the project, things like that.

So what are the project components? This goes through a couple of slides. I have a few details I'll fill in as I go. So essentially, the proposed project is to install about 96 wind turbines that each require a foundation as well as a high-mountain transformer. The applicant has proposed to use 2.3-megawatt transformers that are manufactured by the Siemens Corporation. The project will also require some underground electric collection and communication systems. The electrical collection system will collect the energy from each turbine and transport it to one of two on-site substations. The communication systems are fiberoptic lines connected to each turbine, then they connect to a central computer which actually operates the turbines. That would be located and operated in some maintenance facility.

And then there is two electrical substations and 8.7 miles of overhead transmission lines. Again, two substations are proposed for the project, one in the southeastern portion and one in the northeastern portion of the project. The 8.7 miles of overhead transmission lines would be 230kV lines. It would be a monocled (sic) structure. And

additional components, the switching stations as proposed by Western Area Power Administration. And like I mentioned earlier, the purpose of that facility is to transfer the power generated from the wind energy facility to the existing transmission grid. The proposed location for this is adjacent to the newly constructed entrance station on Cottonwood Cove for the National Park Service. Also, up to four MET towers would be included. Three of those have already been installed. They were applied for and improved under a separate right-of-way application and NEPA cross-up. The MET towers have been sending wind data since 2009. They will continue to be a component of the project for the life of the project. And the operations and maintenance building, this facility would require approximately three and a half acres. It would be painted to match the surrounding landscape. And again, it would house a number of project components including the central computers that would control the turbines and access roads. 9., I think about nine, maybe ten miles of existing roads would be widened to a maximum width of about 36 feet. And then new roads, about 27 miles of new roads would be constructed to connect the turbines. So I mentioned

earlier, the applicant is proposing to use 2.3-megawatt turbines, which is manufactured by Siemens Corporation. And this particular model has a maximum height, excuse me. Maximum height. From the ground to the tip of the rotor blade at its highest position would be 427 feet. From the ground to the rotor hub, approximately 252 feet. It's not identified here, but I think it's an important measurement. From the ground to the rotor blade at its lowest position, approximately 96 feet. As you can see, the rotor does have three blades. These are approximately 165 feet in length and that allows for the rotor-swept area, 331 feet. The slide also has some pictures of a construction of a typical foundation required for the Siemens 2.3 turbine. What you see up here is an octagon shape and foundation. It is approximately 40 to 50 feet wide. It requires about 300 cubic yards of cement. And then once that is constructed, it's back-filled. And BLM, if they approve the project would require a rehabilitation plan, so this area you see here would be rehabilitated.

So what are the temporary components during construction? As you know, with all construction projects there are areas called

lay-down areas. There are two proposed for this project. Each are about ten acres in size and they will be used to store construction equipment, material, while the rotors are pre-assembled and whatnot. There will also be a temporary construction or lay-down area at the base of the turbines. I would like to point out that the proposal does include that all of these materials would be placed on wooden pallets or straw bales while they're waiting to be assembled and constructed.

There will be a concrete batch plant for making concrete for those foundations, as well as a portable rock crusher for making aggregate for the road. The last two items are both mobile, and so they would be moved from each lay-down area as needed during the construction process.

So what alternatives are being considered? The Draft EIS considered three alternatives; the applicant's proposes action, which is a 96-turbine layout; the BLM preferred alternative, which is an 87-wind turbine layout; and also a no-action alternative. I do want to point out also that there were a couple of potential alternatives that were not analyzed in detail under the Draft EIS. Some of

you who may have been following this project, this is an initiation back in 2008, you may recall a 161-turbine layout. That was the original proposed action. Then we held some scoping meetings, and based on scoping meetings, technical and non-technical issues, the 161-turbine alternative was discarded and not analyzed in detail by the BLM. The result was a 140-turbine alternative that again, was discarded by the BLM and not analyzed in detail for the Draft EIS.

So this is the proposed action on, as you can see, the 96-wind turbine layout. It would have the capacity to generate up to 220 megawatts of wind energy. This slide here shows streams of turbines here. This inset here is a blow-up of the Western Area Power Administration switching, switchyard. We also have the same map that will go on some of the posters here so you could see them in more detail.

The BLM preferred alternative to the 87-wind turbine alternative, this project would produce approximately 200 megawatts of energy. BLM determined this to be the preferred alternative because it requires less land, has less impact to sensitive biological resources and still met the purpose and needs of the project.

In addition, the proposed action, the 96-turbine alternative would have exceeded air quality emissions during construction, even after mitigation. And the third alternative analyzed in the EIS is the no-action alternative. And BLM underneath it is required to analyze a no-action alternative. Of course, this assumes BLM has not approved the right-of-way application and the project would not be constructed.

So why is this location being considered? Well, BLM receives the applications and they work with the Searchlight area. And again, based on the existing laws and regulations we are required to consider the applications as received. The purpose of the DEIS is not to determine where the best site for wind energy development is, but it's rather to analyze the site selected and determine whether or not that site is appropriate for wind energy development.

Since the applicant has a few selection criteria as well, Searchlight Wind Energy based on studies has determined that the area has good to excellent wind resources that are capable of a utility-scale project like this. The area is close to existing electrical transmission lines. That was

a key criteria for Western Area Power Administration. It also meets BLM resource planning guidelines as far siting a project in this area. And then the area topography is suitable for wind turbine generators. So during the public scoping period that started in December of 2008 and ended in 2009, people who made comment at the public scoping meeting as well as in agency feedback the BLM received, identified those following issues. The purpose of this slide is to highlight the issue. For example, visual impact. You can find the analysis on visual impact on page 4-61 of the Draft EIS. And we also have a number of boards available to this evening for viewing that highlight some of these areas, too.

So the project schedule, or NEPA process. The NEPA process for this project started with the notice of intent published in the Federal Register. The notice of intent essentially announced to the public that the BLM intended to do an environmental impact statement in order to, for this proposed project. And like I said, there was an internal and external scoping, and the scoping period ended on February 17th, 2009. The Draft EIS was recently released on January 20th, 2012, and that officially

started the 90-day public comment period for this project. As you can see, the comment period ends April 18th and the BLM will accept all comments through that date.

So here we are at the public meeting phase. This is the third of three public meetings the BLM has held on the Draft EIS. Tuesday night we were in Laughlin, last night we were in Searchlight, and tonight, of course, here we are in Boulder City. So we have got some projected dates. BLM is anticipating responding to everybody's comments in the Draft EIS and would be, the Final EIS has a projected release date of June 30th, 2012, followed by a record of decision whether to approve or deny the project signed by the Secretary of the Interior on July 30th, 2012. Please keep in mind these are projected dates and can change depending upon time required for comment analysis.

So thank you. This concludes my portion of the project presentation. I'd like to thank everybody for coming this evening. I hope that you all have learned a few things about the project you might not have known. We appreciate your presence. I'll turn it over to you, Stephanie.

MS. LOCKE: We're going to start the

comment period here shortly, but I'm going to go over how that is going to work first, then we're going to take a quick two or three-minute break so we can set up. And that will give you some opportunities, if you didn't know that those opportunities existed. So this next portion of the meeting is for the BLM to receive your comments, any comments. If you are for the project, if you have a question, if you are against the project, your range of comments, that's what the BLM is here to listen to. So we're going to have people come up. So if you would like to speak to the BLM, what you need to do is fill out a speaker registration card. They're with my colleague Sean here at sign-in table, if you haven't already done so. Some people may not prefer to speak in front of the group, so if that's the case we have a court reporter. Her name is Angela, back in the corner. You can make your comment to her privately, if you would prefer. If you did choose to speak up here, you're going to speak to the BLM, and you get three minutes. My colleague Andy is going to help you out. We'll have a timer up here on the screen and he'll hold up a green card when you have two minutes. When you have a minute left he'll hold up a yellow card, and when your time

is up he'll hold up a red card. And this is so everybody gets the same amount of time, and hopefully, adequate time to make your comment.

The BLM is not going to respond to questions or comments, however. Those will be responded to in the Final EIS. There are a couple of reasons for that. This is to maximize the time that you get to comment. Also, some comments may require more research and analysis. And answering them in the Final EIS allows the BLM to have that time to come up with a thorough, well-researched answer to your question.

Also, let's see. We have elected officials. Nobody has, none of the elected officials have informed me that they want to make a comment; is that correct, or their representatives? So we'll start with the public comments. And I'm basically going to call you up here in the order that I received your speaker registration cards. Please be respectful and courteous. And also, if you do have questions that the BLM staff can answer at this moment after this portion of the meeting, there's lots of BLM staff in this room. You're welcome to ask them your questions directly.

Another way to comment. On the front

table with my colleague Sean there are comment cards and you can fill out your comments and mail them in to the BLM, you can fax them in to the BLM, you can e-mail the BLM, you can leave them here. If you send them to the BLM by regular mail make sure they are postmarked by April 18. Of course, the electronic correspondence is much quicker so you can send that 11:59 on April 18th, if you so choose. So give me two or three minutes to set up. If you would like to speak and haven't filled out a speaker registration card, please see Sean. And any questions on how the next is going to work? Okay.

(Recess taken.)

MS. LOCKE: Ellen Ross.

MS. ROSS: Good evening. So I saw these people last night in Searchlight. So I'm here again. I live in Las Vegas. I've lived here for 35 years. I'm not born in Nevada, but I feel like a real Nevadan. I'm really attached to the desert. It's grown on me. I have been in the real estate business for 33 years and don't much prefer showing land in short sales and foreclosures. In this particular market, that's what we do. We show a lot of empty homes, which brings me to my point. Nevada has approximately, if you Google it, 30 plus million

Comments noted.

visitors a year. You Google Las Vegas, it says it has 39.2 million. So I know that's a little weird, but the point I'm trying to make is that Las Vegas is definitely a hotspot on the planet for tourism. And people don't come here just to visit the Strip anymore, they come here to visit the desert, to be part of the growing ecotourism, which is going to Death Valley, which is going down the river, which is going to various, you know, desert, visiting archeological sites and maybe eventually the fossil museum they have up in North Las Vegas. The point being, we really have a lot of researches. We have the history of Spanish Trails, we have Native American histories, Spanish cultures that were through here, and the mining history. It just overwhelms me, the uniqueness of our southwest heritage and the people that we are and where we come from. I hate to see that overlaid with sort of an industrial Disneyland in various parts of the pristine Mojave Desert, which is one of the highest preserves of natural desert in our country.

Part of the reason why I got involved in real estate there is because private properties there appeal to a lot of people from other countries and of the States that want to live in the desert

Section 4.12-Socioeconomic Impacts has been updated to include a discussion on Impacts on Recreation and Tourism.

Impacts to cultural resources are evaluated in Section 4.5.of the Final EIS.

Section 4.12-Socioeconomic Impacts has been updated to include potential effects property values. For further information see the newly added Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines.

for their retirement homes. In saying that, I sold mining claims in areas that are part of Searchlight. Not in the immediate area, but within, you know, two miles, one mile. It's still private property. People bought that property, paid a fair market value, pay property taxes on it, and now that land is going to be devalued because of wind turbines. Nobody has asked me if I would like to sell them a property with a wind turbine next to it. Nor is that, if you look at YouTube, any of the properties that are in the community, it's not desirable. It devalues the property 50 percent. I would like to ask Duke Energy to buy out all the people that are in close proximity to this project. I am one of those people. 800 feet from my property is going to be positioned a wind turbine. I find this totally unacceptable and obnoxious. In reference to Cottonwood Cove, there's a new home development down there that went under. I now have the listing. I put them in the computer yesterday. I went to the meeting last night and had two calls when I got back that evening, people interested in buying a home. I will now have to disclose to those people that there will be a wind turbine farm within close proximity. These are people who want to retire in Searchlight,

paid a decent price. They paid 400 before, they'll pay a hundred to two hundred thousand now, and they want to have a retirement home in Searchlight outside of southern California. They are trying to run away from the madness that's been created in southern California.

So in the end, what I'd like to say is that the idea of putting a wind turbine farm outside of Las Vegas in an eco area, it's just insane to me. And I think that in doing this we are defeating our purpose in moving forward as a community. And I would like to speak to Senator Reid's representative and Congressman Heck's representative, because we need more representation so we can continue our growth in a positive way where we keep our city, Las Vegas, and the eco-development tourism balanced into the future. Not just this generation, but generations in the future.

Comments noted.

MS. LOCKE: Judy Bundorf?

MS. BUNDORF: Judy Bundorf. Over on Grand Pass Road we bought ten years ago because of the Joshua Tree forest. We researched the land all around, sold by BLM. I talked to geologists, I talked to mining people, "Will anything ever happen here to destroy my views?" I was assured, oh, no,

Comments noted.

that that is BLM land. They will not permit this to be destroyed. I would like to read from the DEIS. "It is the mission of the Bureau of Land Management to sustain and help diversity and productivity of the public lands for the use and enjoyment of present and future generations." I don't have children. I won't be able to sell that house. It's a beautiful home. I guess we'll just blow it up and move away. I have choices. I have another home. But referring to the environmental justice section of the DEIS which states there, few minorities or low-income people in Searchlight. And they're using 2008 census data. Well, just last weekend at the Searchlight Town Board meeting there was a letter read approving, requesting the Silver Rider transport because of the large number of elderly and low-income people who live in Searchlight who depend on public transaction. You can't have it both ways.

So the noise level. I will be 1.25 miles from about a dozen turbines. It's very quiet out there. I hear the quail at night, hear the coyote. I've read that people that live near wind turbines, it sounds like tennis shoes in the dryer. The jet engine that never takes off, it just roars. And there's more and more studies being done

Data updated to 2010 Census.

See noise modeling in Section 4.10-Noise Impacts, for discussion on the conservative projected noise levels in the area.

that back that up. The Federal electrical subsidies per unit of production for wind, $56.29 per megawatt. That's 2010 dollars. For gas, .64. For coal, .64. For hydropower, .82. But wind, $56.29 per megawatt hour. As a taxpayer, I can't afford to subsidize this. As a rate payer, I can't afford to turn my lights on with those prices.

Comments noted.

Fire safety will be a huge issue. I want to ask BLM where is the nearest BLM fire station? The little, you know, volunteer fire department of Searchlight is not prepared to fight a massive desert fire when one of those things explodes. I say when, not if, because there are too many cases where they do cause fires. The desert is like tinder. This area on a typical year like this, we're all in trouble. Thank you.

Section 4.14-Health and Human Safety Impacts of the document contained a detailed description of the potential effects. Mitigation to reduce fire-related risk is described in MM SAFE-4: Construction Fire Prevention Measures and APM-7.

MS. LOCKE: Thank you for your comment. James Eaton?

MR. EATON: There's a chart over here and a lot of stuff, lot of numbers. $22 million in the road construction. Those were like Clark County, Las Vegas, state of Nevada. What is that money being spent on, because the wind turbines are obviously not coming from Las Vegas. They're going to make their own concrete at a batch plant, and

Comments noted.

then get their aggregate from on-site because of the rock prices. So they're not going to be buying materials from Las Vegas companies. And $500,000 a year in maintenance and upkeep in Clark County and Mojave County. And what, and electricians and all that stuff, special for wind turbines will be coming in from wherever they come from. I don't know if they come from the state of Nevada, but they're not going to hire 200 construction workers that are unexperienced. You have to work on wind turbines to get a job building the turbines. So people will come in from other parts of the country to build the wind turbines. And with it, add to the 200 construction jobs to go through and make them permanent jobs that are going to go to people that are trained and operating and maintaining and keeping track of all this stuff and the main computer, whatever, that has to hook up all these turbines to run it all. So they're not going to hire people from Searchlight, Clark County, they're going to hire people from some other part of the country to come in and build the stuff, and then become executives, or they'll make the decision to send somebody out to there to work. They're not going to hire people from Searchlight.

So, you know, $22 million in construction and all the jobs and stuff is kind of illegitimate in the fact it's not going to be local people, really, from Searchlight. Searchlight has nothing to gain from the wind turbines, except they're going to have to look at them. So there's no real upside to the people of Searchlight. The electrical company that owns, Searchlight Wind Tower, LLC, they made it an LLC to protect themselves so if something happens in the construction project where, gee, we can't mitigate the, anything, really, to foilage to plant life to animal or anything natural, they're going to protect themselves through an LLC. They're not going to do an electrical, a subsidiary that was owned and something happens, you would fold them up, protect the larger corporation. Really, the responsibility is not going to come down to the large company, it's going to come down to a small subsidiary that they can just walk away from.

The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands. Refer to Appendix C: BLM Wind Energy Development Program Policies and BMPs, page A-4.

And then you've got the sound. On the chart they show that from the distances, but they don't show prevailing winds. If it's dead calm, that's the decibel reading. So if it's dead calm the turbine doesn't spin. So what's the wind have to do to spin the turbine? That's where it's 105

See noise modeling presented in Section 4.10.2-Direct and Indirect Effects by Alternative for discussion on the conservative projected noise levels in the area. The modeling study conducted for this project included very conservative assumptions that included all receptors being downwind from all turbines simultaneously (a physical impossibility), all turbines operating simultaneously, and the maximum sound output from the turbines under maximum wind conditions. Sound levels from the project would only be lower under lighter wind conditions.

decibels at the turbine. And then what's the decibel reading 300 yards away when it's going full speed and wind blowing towards the house. So that's the kind of information that's more pertinent to people that live in Searchlight. That's a nice picture and I see what the noise is, but what's it going to be in the real world when they're all done and built and it's a little louder and then they say, "Well, sorry about that," and then it's too late.

So if we have a realistic number that says, "Hey, you know what? On a really windy day it's going to lift your house," that's more realistic information. That's it. Thanks.

MS. LOCKE: Thank you for your comment. John Hiatt.

MR. HIATT: Thank you for the opportunity to comment tonight. This is a big EIS and there are a lot of comments to make, so this is a short time to talk about a couple things. This area on the west side of the Colorado River here, this southern Nevada from Boulder City on south down towards Sierra Mountains is a very rich area biologically. If you look at it you can see how much plant life there is. And, of course, that attracts animals,

and particularly to the bird life. I'm sure the people doing the EIS, the contractors have done studies of bird species and migratory birds in here. But to give you an idea how this area compares, there's an inadvertent study which is being carried out. Basically, it's a removal of all the mine markers and seeing how many dead birds are in each one of those markers. And it turns out that this area around Searchlight we're talking about has one of the highest mortality rates for birds in those tubes than any place in southern Nevada. And now, I looked at a couple last week when I was out in Searchlight. I pulled out eight tubes, a total of 37 dead birds. There are a lot of birds being killed there. And those birds are flying through the air. They will be impacted by this. The one species that maybe is the greatest concern are the Golden Eagles. And yes, studies have been done in terms of how many nests are in this area and so on, but that doesn't really capture the essence of the problem. For the cumulative impact for Golden Eagles, for me you need to look at the entire western United States in terms of wind tower projects, because eagles are incredibly far-ranging birds. One of the things we found out due to the

A Bird and Bat Conservation Strategy (BBCS) (formerly referred to as the Avian and Bat Protection Plan [ABPP]) has been developed for the proposed project utilizing the recommendations within the USFWS's March 2012 Land Based Wind Energy Guidelines (Refer to Appendix B-4: Bird and Bat Conservation Strategy).

satellite tracking devices is that eagles that may breed in this area or be born in this area, they can go all the way to the Arctic Ocean and back again. And so they're everywhere. And so when we look at the impact of the population, we have to consider the entire Golden Eagle population in the United States.

There's a project in the Tehachapis, it's called the Pine Tree Project, in which six Golden Eagles were killed in the last year. You figure that the recruitment of the population in California is estimated to be about 96 Golden Eagles per year that are fledged. You look and you see that one project, that basically would take out 16 percent of the annual fledging of Golden Eagles. We don't need to discuss very many of these projects before we basically put Golden Eagles on the decline, and now we're looking potentially in the future at endangered species status with Golden Eagles. That is not something we want to have happen. That would potentially shut down all of the wind turbine projects in the western United States if that happens. And I think it talks about, the EIS talks about mitigation and adaptive management to try and solve this problem. The only way to resolve it is

and region that is rich with mining history. An area, in fact, riddled with abandoned mines and diggings. Well, enter this pamphlet, it's a BLM pamphlet, Needles Field Office. Mojave Desert bats. Abandoned bats are for -- excuse me. Abandoned mines are for bats, not people. Let's read on. Very interesting. Subterranean bat program. Bats in the desert choose roosting sites that might surprise you. They often roost in abandoned mines and associated structures. The Needles Field Office has done several projects in recent years to protect bat habitat. Read down further. Abandoned mines serve as roosting habitat for several species of bats considered BLM-sensitive, and California Department of Fish and Game species special concern. More than half of the 45 bats species in the U.S. are in rapid decline or are already listed as endangered. Two-thirds of these bat species roost in mines. And also, over here, there's evidence of groups and sites that seriously threaten the population. The BLM in light of, or given BLM that the search point areas that are invariably political, those abandoned mines, and have all the desert southwest natural habitat that so many bat species use, this would be the perfect spot for

these wind turbine projects you propose. If you wanted to kill more bats, if you wanted to kill increased numbers of them, indeed, BLM, are you looking to hasten the already rapid decline of 45 -- of half of the 45 U.S. bat species, more than half? Are you looking to more seriously affect the 30 bat species that roost in mines, all of this by BLM literature? Are you looking to further and more seriously affect those species considered BLM-sensitive? And I would also add that the construction of such a wind power facility would certainly provide the disturbance to affect, seriously, roosting bat species.

MS. LOCKE: Thank you for your comment. That is all the speakers' comments. At this time there are two court reporters still available and will be available for the duration. And so, it's 25 minutes until 8:00.

(Whereupon, proceedings were concluded at 8:00 p.m.)

1 CERTIFICATE OF REPORTER

2 STATE OF NEVADA)

) ss:

3 COUNTY OF CLARK)

4 I, Rene' Hannah, Certified Court Reporter,

5 do hereby certify:

6 That I reported the PUBLIC MEETING OF

7 PROPOSED WIND ENERGY PROJECT, commencing on

8 Thursday, February 23, 2012, at 6:00 p.m.

9 That I thereafter transcribed my said

10 shorthand notes into typewriting and that the

11 typewritten transcript is a complete, true and

12 accurate transcription of my said shorthand notes.

13 I further certify that I am not a relative

14 or employee of counsel of any of the parties, nor a

15 relative or employee of the parties involved in said

16 action, nor a person financially interested in

17 the action.

18 IN WITNESS WHEREOF, I have set my hand in

19 my office in the County of Clark, State of Nevada,

20 this_____ day of _____, 2012.

21

_____

22 RENE' R. HANNAH, CCR NO. 326

23

24

25

Appendix B-1: Weed Management Plan

2011

Searchlight Wind Farm Weed Management Plan

Alphabiota Environmental Consulting

Alphabiota
ENVIRONMENTAL CONSULTING

Weed Management Plan
Searchlight Wind Farm
Town of Searchlight,
Clark County, Nevada

April 11, 2011

Revised November 8, 2011

Prepared for:

Tetra Tech EC Inc. on Behalf of Duke Energy

Attn: Dr. Karl Kosciuch

1750 SW Harbor Way

Portland, OR 97201

Weed Management Plan

Searchlight, Nevada

Clark County, Nevada

Alphabiota Environmental Consulting, LLC
Project Number: 09-1034

Report Prepared By:

_____

Yancey Bissonnette
Botanist / Biologist

Alphabiota Environmental Consulting, LLC
38361 Roundtree Lane
Squaw Valley, California 93675
(559) 338-0929
April 11, 2011

Table of Contents

1.0 INTRODUCTION 6
1.1 Plan Purpose 6
1.3 Goals and Objectives 6
1.4 Project Description 7
2.0 NOXIOUS WEED INVENTORY 7
2.1 State Listed Noxious Weeds and Relevant Regulations 7
2.1.1 Naturalized and Established Non-Native Species of Plants 8
2.2 Weed Management of the Project 9
2.3 Weed Survey and Inventory within the Project Area 9
3.0 WEED MANAGEMENT 10
3.1 Recognition of Problem Areas 11
3.2 Preventive Measures 11
3.2.1 General 11
3.2.2 Cleaning 12
3.2.3 Soil 13
3.3 Treatment Methods 13
3.4 Reclamation Methods 16
3.5 Post-reclamation Methods 17
3.6 Agency Specific Requirements 17
4.0 MONITORING 18
4.1 Proposed Monitoring Methodology 19
4.3 Monitoring of Known Infestation Areas 20
5.0 BIBLIOGRAPHY 21

Table of Contents (continued)

APPENDICES

A. Tables

1. Noxious Weed Species of Nevada
2. Observed Flora of the Searchlight Wind Farm Project
3. Construction and Post-Construction Weed Monitoring Timeline for the Searchlight Wind Farm

B. Plates

1. Site Location
2. Project Boundary
3. Weed Locations – Sahara Mustard

C. Approved Herbicides for use on BLM Lands

1.0 INTRODUCTION

1.1 Plan Purpose

The purpose of this plan is to prescribe methods to help prevent and manage the spread of noxious weeds during and following construction of the Searchlight Wind Energy Project in Clark County (Project). The Project Proponent and its contractors are responsible for carrying out the methods described in this plan. This plan is applicable to the construction and operation of the Project, but may be modified, with consultation of the LVFO weed coordinator, to address circumstantial and potentially unforeseeable issues not readily predictable prior to construction or operation activities. Noxious weed control practices for the Project described in this plan have been developed utilizing the following sources and agency contacts.

Nevada:

- Nevada Revised Statutes: Chapter 555—Control of Insects, Pests and Noxious Weeds;
- The Las Vegas Field Office of the Nevada State BLM; and
- The Nevada Department of Agriculture.

1.3 Goals and Objectives

The goal of the preventative and control measures outlined in this document is to promote the containment and control weeds during the construction, operation, and maintenance of the Project. The Project Proponents objective is to assist federal, state, and local agencies' weed control efforts, to comply with requirements designed to help prevent the spread of all weeds, noxious and other, and to implement weed control measures on areas of the Project that are identified to be of special concern. In carrying out these measures, the Project Proponent will target selected areas within the Project where weed species are problematic within the current natural vegetation community in comparison to the least disturbed or naturally occurring and currently described vegetation habitat occurring at or nearby the Project. These preventative and treatment measures are described in Section 3 of the Noxious Weed Management Plan.

1.4 Project Description

Duke Energy (Project Proponent) is proposing the development of the Searchlight Wind Energy Facility (Project) that includes the erection of 87 wind turbines with supporting infrastructure, transmission lines, distribution lines, and collection lines within the proposed Project area.

The proposed Project area includes locales within the rural outskirts to the north, east, and south of the town of Searchlight within the County of Clark, Nevada (Plate 1). The site is located within the Searchlight (35114d8), Fourth of July Mountain (35114d7), Ireteba Peaks (035114e7) Nelson SW (35114e8) 7.5 Minute United States Geological Survey Quadrangle. The overall Project boundary (Plate 2) encompasses approximately 9500 acres of BLM managed lands of which approximately 2260 acres of this land was surveyed for potential ground disturbance and development. Most of the site and the surrounding vicinity is currently undeveloped, and / or is managed by the BLM, with some of the site containing off-road vehicle trails. To complete the botanical and weed survey effort with the highest degree of accuracy prior to final Project design, a 400-foot survey corridor was created by utilizing a 200-foot buffer around the proposed center line of turbine strings, roads, collector lines, and transmission lines. Additionally, other features such as the O&M building, substation, and lay-down area were buffered by 200 feet from their outer edges, leaving a survey area of greater than 400 feet for non-linear features. At the time of this report, the survey corridors are found exclusively within the Project boundary and represent the areas of potential development.

2.0 NOXIOUS WEED INVENTORY

2.1 State Listed Noxious Weeds and Relevant Regulations

The State of Nevada and US Department of Agriculture maintains an official list of weed species that are designated noxious for the State (Table 1). The Nevada Control of Insects, Pests, and Noxious Weeds Act (Nevada Revised Statutes: Chapter 555) grants the Director of the Nevada Department of Agriculture the authority to investigate and

control noxious plants. The following excerpts from the Nevada Revised Statutes (NRS) Chapter 555 and the BLM website are presented for reference in establishing relevant guidance for this plans development.

Noxious weeds as defined by the BLM

Noxious weed is a legal and regulatory designation. The BLM defines a noxious weed as: "A plant that interferes with management objectives for a given area of land at a given point in time." 'All of Nevada's noxious weeds can be found somewhere on Nevada's public land. Thus, in addition to BLM's inherent stewardship concerns about noxious weeds, legal responsibilities towards noxious weed management exist' (BLM, 2009).

The State of Nevada has officially designated 47 weed species as noxious and categorized by distribution (Table 1). For the purposes of this Weed Management Plan, all weeds on the list will be treated with equal importance for control and/or eradication.

2.1.1 Naturalized and Established Non-Native Species of Plants

The basis for weed management and the Project Proponent's objective is to prevent the spread of controllable weeds. The Project Proponent, the BLM, and other Federal, state, and local agencies recognize that there are species, such as Cheat grass (*Bromus tectorum*), Mediterranean grass (*Schismus spp.*), and other herbaceous and woody species that because of their widespread distribution are not considered feasible for general control. Therefore, only those species that are identified as controllable will be treated in the selected areas of the Project where they are problematic and form a significant portion of the local community, and / or pose a threat to the local vegetation community or nearby undisturbed areas, or could increase the probability of wildfire if left untreated.

2.2 Weed Management of the Project

The Project Proponent will maintain and control, within feasibly practicable means, weeds and weed infestations within Project boundaries, Project influence areas, and Project construction areas as prescribed by *NRS 555.150 Eradication of noxious weeds by owner or occupant of land***.**

Project influence areas are defined as those areas which may occur within or outside construction zones and their buffer areas, Project boundaries, or downstream within desert washes outside the Project boundaries but not extending more than 50 meters from the Project boundary downstream of any wash system originating on or within the Project bounds. All other reasonably discernable weed infestations occurring outside the Project bounds or within the 50 meter wash limit will need to be discernibly identified as originating from Project weed source populations prior to the Project Proponent assuming responsibility for management of any weed infestations occurring outside the boundaries of the Project.

2.3 Weed Survey and Inventory within the Project Area

Pre-construction field surveys were conducted from February, 2010 through May, 2010 to identify potential weed occupation. A reconnaissance survey was conducted on November 11, 2009, and a cursory site visit was conducted on July 7, 2010 to assess pre-survey and post-survey blooming and vegetation conditions of the site. Survey results are presented in the botanical survey report prepared for this project, (Bissonnette 2010). Weeds identified for this project are discussed in the following section.

Survey teams discovered one noxious weed species that is generally considered a major concern for the Mojave Desert. Sahara Mustard (*Brassica tournefortii*), a category 'B' weed, is an introduced species. Survey teams observed Sahara Mustard in the northeast reaches of the Project, within a contiguous wash system (Plate 3); (Bissonnette 2010).

Observations of Sahara Mustard generally occurred as widely scattered individuals, where the majority of these individuals were surviving opportunistically under larger native nurse plants, and not as populations. Most of the Sahara Mustard observed on or within the vicinity of the site occurred along the boundaries of Rte 164 (Cottonwood Cove Road) and within the bisecting and adjacent wash that covers a large portion of the northeast reaches of the site. Seeds appear to be transported and perpetuated by normal traffic, roadside maintenance, recreational ATVs, maintenance vehicles, and runoff from precipitation events (Bissonnette 2010). Additionally, seed transport may occur from rodents who carry them for caching, and downhill rolling movements based on spherical shape.

3.0 WEED MANAGEMENT

A risk assessment (BLM 2009) prepared by Alphabiota Environmental Consulting, LLC was completed for this Project and was referenced for use in establishing protocols for the implementation of this plan. Based upon the results of the risk assessment, the risk rating for this project is Moderate. Pre-construction controls, preventative measures (during construction and post-construction) and during operations of the facility will be implemented.

The following sections describe implementation measures for weed management as developed in collaboration with the BLM LVFO weed coordinator. Additional weed control measures that may be necessary following the development of this Plan will be developed and agreed upon prior to the onset of ground disturbing activities in areas of concern that may not have been readily identifiable at the time this plan was developed. Additional measures will be noted either in this Weed Management Plan or by memorandum submitted to the Project Proponent and the BLM LVFO weed coordinator for their review and endorsement.

3.1 Recognition of Problem Areas

Prior to the initiation of construction activities, all construction personnel will be instructed on the importance of controlling weeds. As part of start-up activities, the Project Proponent will provide information and training regarding weed management. The importance of preventing the spread of weeds in areas not infested, and controlling the proliferation of weeds already present will be emphasized. Prior to construction, areas of concern previously identified will be identified and clearly discernable in the field, flagging will be utilized to help identify these areas of concern. The flagging will alert project personnel and prevent access into areas until weed management control measures have been implemented.

3.2 Preventive Measures

The Project Proponent recognizes that prevention is the most cost-effective approach to weed management. The Project Proponent will collaborate with federal, state, and local agency weed control efforts; comply with preventative requirements; and implement weed control measures in areas of the Project identified with weed concerns. The following preventive measures will be implemented to help prevent the spread of existing weeds found on the site and within the previously defined influence areas:

3.2.1 General

The Project Proponent will conduct an employee environmental awareness program (EEAP) before surface disturbance to educate all Project personnel regarding environmental concerns and requirements, including weed identification, prevention, and control methods. No personnel will be allowed to enter the Project before taking part in the EEAP, at any point during the Project. Qualified biological monitors or environmental inspectors approved by BLM and / or the U.S. Fish and Wildlife Service (FWS) will be used to conduct the EEAP program and on-site biological monitoring before and during construction, and during facility operation.

3.2.2 Cleaning

All project related vehicles and equipment will undergo a cleaning regiment prior to entering or leaving the project area. Cleaning will be carried out using power or high-pressure equipment to remove seeds, roots, rhizomes, or any plant material from the equipment before transport on or off-site. Cleaning will concentrate on tracks or tires and on the undercarriage, with special emphasis on axles, frames, cross members, motor mounts, the underside of running boards, and front bumper/brush guard assemblies. If the weather and site conditions for each day of construction activities are dry, compressed air will be used to clean vehicles and equipment. If muddy conditions exist, a mat platform with containment would be set up and the vehicles and equipment will be cleaned with high pressure water. Vehicle cabs will be swept out and refuse disposed of in waste receptacles. The contractor, with oversight from an environmental inspector, will ensure that vehicles and equipment are free of soil and debris capable of transporting weed seeds, roots, rhizomes, or other plant material before vehicles and equipment are allowed use of Project access roads.

The project will develop a 'sticker' program to identify all vehicles and equipment that have successfully been cleared of weed and plant material and soil. Vehicles and equipment without the proper area-specific stickers will be barred from entering Project areas until cleaned. All vehicles and equipment will always be cleaned prior to entering the Project site or when moving to an area of the site not identified within the immediate vicinity of weed infested areas. Cleaning will be verified by a biological and / or environmental monitor. Vehicles leaving the site will have to be re-cleaned and validated prior to re-entering the Project.

Cleaning sites will be coordinated with BLM LVFO weed coordinator and then recorded on maps and / or by GPS equipment. Final maps of locations will be made available to the BLM LVFO weed coordinator or other jurisdictional authority upon request.

3.2.3 Soil

In areas where infestations were identified in the field, the contractor will salvage vegetation required while topsoil will be stripped and stockpiled to eliminate the transport of soil-borne weed seeds. Stockpiles would be marked with clearly visible signage until needed for reclamation. These soils will also not be permitted to be moved outside of the weed infested areas from which they were excavated. When needed, stockpiled materials will then be returned to the areas from which they were excavated.

In addition to soils and materials stockpiled from on-site resources, soils and materials transported into or onto the site from out-side sources will be inspected, assessed for weed contamination, and managed according to on-site soils treatments and / or stockpiling treatments. To minimize the probability of introducing weed non-native species to the site from imported topsoil, the following measures will be implemented:

- Inspection of the source site will be performed to assess weed species existing at and within the immediate vicinity of the source location.
- Fill material will be utilized only from source sites without weed infestation.

Straw or hay bales used for sediment barrier installations or mulch distribution will be weed-free. If weed free bales are unavailable, alternative weed free sediment barrier installations would be utilized.

The Project Proponent will implement the reclamation of disturbed lands immediately following construction that will be outlined in the Project Proponent's Reclamation Plan. Prompt and continuous re-vegetation efforts will ensure adequate vegetative cover to help control or prevent the introduction of weeds.

3.3 Treatment Methods

The Project Proponent will implement weed control measures in accordance with existing regulations and jurisdictional land management agency. The Project Proponent will focus weed control efforts only within areas of the Project or designated buffer zone

areas containing *Brassica tournefortii*. Treatment methods will focus on *Brassica tournefortii* occurring within the Project or designated buffer zones. The BLM LVFO weed coordinator will be notified prior to treatment of *Brassica tournefortii*.

The following treatment measures will be utilized to manage the control and / or spread of *Brassica tournefortii*. Implementation of weed control measures will proceed when site conditions are determined to be best suited for the type of weed control method being utilized.

- **Mechanical:**

  This treatment method will utilize either of the following strategies with the first method being the preferred choice:

  1. Manual labor personnel utilizing hand tools to remove weed species.

     Labor methods, such as hand pulling and / or use of hand tools to remove unwanted weed species, will be implemented to target small populations of *Brassica tournefortii* thus limiting or avoiding the removal of pre-existing native species. This method will be utilized prior to seed set and will be useful in controlling *Brassica tournefortii* that occur in locally small populations or occur as individuals beneath nurse type plants. Excavated *Brassica tournefortii* will be prepared for removal from the site.

  2. Heavy equipment utilizing implements to remove *Brassica tournefortii* and clear surface soils.

     Mechanical methods relying on heavy equipment (e.g. tractors, dozers, earthmoving equipment, etc.) will be implemented to mow, disc, or excavate *Brassica tournefortii* populations. This method will be utilized if it is determined that the area to be treated is too large to control sufficiently by manual labor methods alone. If such a method is used, restoration will occur to restore the affected areas. Restoration methods developed in the Restoration Plan will need to be followed after any use of this type of treatment method.

- **Chemical:**

  This treatment method would only be used if approval is gained by BLM and in conjunction with an approved Pesticide Use Proposal (PUP). Chemical treatment, if utilized, would be used to control the spread of *Brassica tournefortii* prior to seed set. Pre-emergent herbicides would be applied to the soil before the weed seed germinates. The Project proponent would utilize BLM-approved pre-emergent herbicides (Appendix C) if chemical treatment was deemed appropriate and BLM approval is confirmed. Pre-emergent herbicides would primarily be applied in early fall, prior to fall/early winter rains and weed germination. Species specific herbicides would be investigated and would be used as appropriate and available, thus targeting specific weed species rather than all plant growth.

Pre-construction treatment will consist of one or both of the mechanical methods, and when applicable, chemical methods. Treatment will occur only in areas where populations of *Brassica tournefortii* have been documented. In areas where *Brassica tournefortii* may be interspersed with native vegetation, the method of choice will be manual labor using hand tools prior to seed set for the removal of excavated *Brassica tournefortii*. During construction, control and containment preferences will be to utilize manual labor whenever feasibly or logistically possible. To help support control and containment efforts during post-construction activities mechanical applications will be utilized to help reduce infestations and fecundity of any opportunistic weed species recognized by the State as a weed. Chemical applications will be reserved for use if mechanical methods are not successful, and only with prior BLM approval.

As with other Weed species occurring in the West; *Brassica tournefortii* can be aggressive and highly adaptable while utilizing rapid germination, maturity, and fruiting strategies well before other native species begin to germinate. *Brassica tournefortii* is an annual herbaceous plant that reproduces by seed. It is self-compatible or autogamous, meaning that it can self-pollinate. Seed maturity and senescence generally occurs from April to May, however during drought conditions this can occur as early as February (Guertin 2003). Germination can occur bi-annually (generally in the spring and / or fall) if the necessary environmental conditions occur. *Brassica tournefortii* seed requires light inhibition and optimum soil temperatures ranging from 59°- 68°F (15°-20°C) for

germination to occur. Germination can occur within 4 days under optimum conditions. As little as 1.5 inches of rain can initiate germination and growth. Most growth occurs in the winter months with flowering and fruiting occurring in the late winter to early spring months. However, this can be accelerated by unseasonably warm dry weather, a short rainy season, or a rapid warming and heating of a locale. Therefore, the monitoring of environmental, climatic, and emergence conditions is necessary for preparing for implementation of weed control and restoration treatments.

To help facilitate implementation of treatments the Project Proponent will employ a biological monitor to routinely monitor and record the site conditions for indications of growth of *Brassica tournefortii*. This will include monitoring of local climate conditions for rainfall and general weather conditions. Monitoring will begin up to one year prior to the anticipated start date of ground disturbance activities for the Project. The biological monitor will record and document the conditions of the areas to be treated and convey the documented conditions to the Project Proponent and / or the contractor assigned to managing treatment measures. This will help to facilitate logistical scheduling for proceeding with treatment methods for *Brassica tournefortii*. Reporting will be submitted to the Project Proponent; and will be provided to the BLM LVFO upon request.

3.4 Reclamation Methods

Reclamation work, performed in advance of dormant seeding, will follow the progress of construction. Restoration and re-vegetation methods to be carried out by the Project will be addressed in a Reclamation Plan prepared by the Project Proponent. Disturbed ground may require BLM-approved chemical weed control before weeds go to seed. Chemical weed control would only be used with BLM approval and in conjunction with an approved PUP. Reseeding that may include mulching will be conducted on disturbed areas that have reached final grade or that will remain un-worked for 30 days. Final seedbed preparation, as required, and seeding and planting would be completed in September and October of the construction period to coincide with the optimal periods for dormant seeding for seed mixtures to be used for the Project. Weed control is an

important function for the restoration of native plant species following site disturbance. Planting and seeding will occur at the appropriate time of year for each species considered, and will be dependent upon weather conditions and construction timing. Planting methods will be developed based on site-specific factors such as slope, erosion potential, and size of the area in need of re-vegetation.

3.5 Post-reclamation Methods

Treatment methods other than herbicide application, such as mechanical measures, would be considered during the reclamation process to support weed control. Pre-construction weed management methods coupled with successful reclamation, treatment, and monitoring, should also help combat previously established weeds. During years of higher-than-average rainfall, weeds could appear in greater numbers than normal. For this reason, reclamation (through clearing, preparing seedbeds, and seeding of native species) of areas containing broadly occurring species is the preferred measure.

Treatment methods would be based on species-specific and area-specific conditions and will be coordinated with the BLM. The Project Proponent will continue to coordinate with resource agencies following construction and operation of the facility to ensure that appropriate and adequate treatment is implemented.

Post-construction control measures will include mechanical methods; utilizing manual labor, and / or equipment to extract, mow, or disc weed individuals or populations. Subsequent seeding would be conducted as soon as possible following soil disturbance to re-establish a stabilizing vegetation cover and reduce the potential for colonization of weeds. Such soil-disturbing activities would be avoided within native habitat areas.

3.6 Agency Specific Requirements

The appropriate weed control procedures, including target species, timing of control, and method of control, will be coordinated with the BLM LVFO weed coordinator. The Project Proponent will be responsible for providing the necessary personnel / contractors to implement weed control procedures.

4.0 MONITORING

Monitoring of weeds will be conducted during all phases of construction and for the life of the facility (Table 3). Monitoring will be conducted throughout the Project bounds and in any area affected by Project construction where known infestation areas have been identified to be of special concern. The Project Proponent intends to begin post-construction monitoring during the first growing season following construction. Post-construction monitoring will be conducted annually for the first three years following completion of construction activities and bi-annually for the duration of the life of the facility. Monitoring, both during construction and post-construction, will initially occur specifically during the life cycle or growing season of *Brassica tournefortii* (Most growth occurs in the winter months with flowering and fruiting generally occurring in the late winter to early spring months; see paragraph 3 section 3.3 for more information regarding *Brassica tournefortii* phenology and germination). However, if any other of the State listed weed species is observed within the project during the life of the facility, monitoring may be amended as needed. The growing season shall be defined by the germination time and documented growth cycle of each individual State listed weed species observed with the project for any given time during construction and post-construction operations and maintenance during the life of the facility. Therefore, monitoring times and conditions may change as needed and may vary from year-to-year.

If infestations of weeds are noted during monitoring activities, treatment methods will be implemented. In the event of any new infestation, the monitoring schedule may become more frequent. Small infestations are likely to be locally treated with one of the previously identified applications, with a focus on treating individual plants. In the event that a large infestation occurs or reoccurs, an assessment will be performed to determine the potential cause of the infestation, and new strategies for treatments may be developed. Any new treatment strategies will be collaborated with the BLM and other relevant local weed supervisory authorities.

The Project Proponent will maintain ongoing communication with BLM regarding weeds within the Project bounds. BLM may also contact the Project Proponent to report the presence of weeds. The Project Proponent would assess the conditions and locations for which the weeds are being reported and develop a plan to control the weeds on a case-by-case basis. The Project Proponent will maintain experienced personnel with background in the identification of weed species, who will convey information to the biological monitor for contribution into the monitoring reports.

4.1 Proposed Monitoring Methodology

The overall purpose of a monitoring program is to document whether areas that have been disturbed during construction and / or post construction are progressing toward the long-term goal of soil stability, appropriate re-growth of (weed free) vegetative cover, species diversity, and habitat restoration. Monitoring will be carried out as described below.

Targeted weed treatment areas where reclamation is implemented or have been treated will be monitored and assessed biannually for the life of the facility following construction. The Project Proponent will implement the schedule on any appropriate BLM, state-owned, and private lands where monitoring would include:

- Identifying and assessing weed conditions in the primary and secondary growing season (usually spring and sometimes fall) following the completion of construction activities, with particular attention given to any infestation occurring in previously unaffected areas;
- Identifying and assessing locations where additional remedial action or treatment may be required, and recommending treatment actions; and
- Recording any additional weed control treatments carried out in the reporting period.

In conjunction with the Project Proponent's reclamation monitoring, weed monitoring would include:

- Monitoring and assessment of the reseeding effort during the second growing season, with subsequent follow-up surveys in the third and fifth growing seasons post-restoration (note that reseeding efforts would occur in agreement with relevant agencies in any area where monitoring during the second growing season determines a re-vegetation failure); and
- Assessment of Project stability, re-vegetation progress, and percentage of vegetative cover (qualitative analysis and success criteria should be specified in the Project Proponent's Reclamation Plan).
- The Project Proponent will document the above observations for presentation in monitoring reports to be made available to the BLM, FWS, and respective local weed management boards, as required.

4.3 Monitoring of Known Infestation Areas

In addition to biannual and ongoing weed monitoring (noted previously) the Project Proponent will conduct annual site visits to monitor known infestation areas. These areas will be assessed and then treated as described in the treatment methods if needed. The Project Proponent will continue to visit these known infestation areas until weed control measures show significant improvement or eradication of weeds for these areas.

5.0 BIBLIOGRAPHY

Agriculture, D. o. 2010. *Plant Industry Division-Noxius Weed List*. (LMDeSantis - DoIT Web Development Team) Retrieved June 28, 2011, from Nevada Department of Agriculture: http://agri.nv.gov/nwac/PLANT_NoxWeedList.htm

Bissonnette, Y. 2010. *Searchlight Botanical Survey.* Squaw Valley, California: Alphabiota Environmental Consulting, LLC. Produced for Duke Energy.

BLM. 2009. *Noxious Weeds & Invasive Species*. Retrieved February; March 2011, from United States Department of Interiour Bureau of Land Management: http://www.blm.gov/nv/st/en/prog/more_programs/invasive_species.html

Guertin, P. 2003. *USGS Weeds in the West project: Status of Introduced Plants in Southern Arizona Parks .* Research, University of Arizona, U.S Geological Survey/Southwest Biological Science Center Sonoran Desert Field Station, Tuscon.

Nevada Department of Agriculture. (n.d.). Retrieved 2009; 2010, from Nevada Department of Agriculture Noxious Weeds: http://agri.nv.gov/PLANT_NoxWeeds_index.htm

Ryan, M. 2005. *CHECKLIST OF THE NON-NATIVE PLANTS OF SOUTHERN NEVADA.* Reno: University of Nevada : Cooperative Extension.

Appendix A

Table 1
State Listed Noxious Weeds of Nevada
Searchlight Wind Farm
Clark County, Nevada

NAC 555.010 Designation and categorization of noxious weeds. (NRS 555.130**)**

Category A Weeds[1]:	
(1) African rue.	(Peganum harmala)
(2) Austrian fieldcress.	(Rorippa austriaca)
(3) Austrian peaweed.	(Sphaerophysa salsula)
(4) Black henbane.	(Hysocyamus niger)
(5) Camelthorn.	(Alhagi pseudalhagi)
(6) Common crupina.	(Crupina vulgaris)
(7) Dalmatian toadflax.	(Linaria dalmatica)
(8) Dyer's woad.	(Isatis tinctoria)
(9) Eurasian water-milfoil.	(Myriophyllum spicatum)
(10) Giant reed.	(Arundo donax)
(11) Giant salvinia.	(Salvinia molesta)
(12) Goats rue.	(Galega officinalis)
(13) Green fountain grass.	(Pennisetum setaceum)
(14) Houndstongue.	(Cynoglossum officinale)
(15) Hydrilla.	(Hydrilla verticillata)
(16) Iberian starthistle.	(Centaurea iberica)
(17) Klamath weed.	(Hypericum perforatum)
(18) Malta starthistle.	(Centaurea melitensis)
(19) Mayweed chamomile.	(Anthemis cotula)
(20) Mediterranean sage.	(Salvia aethiopis)

(21) Purple loosestrife.	(Lythrum salicaria, Lythrum virgatum and their cultivars)
(22) Purple starthistle.	(Centaurea calcitrapa)
(23) Rush skeletonweed.	(Chondrilla juncea)
(24) Sow thistle.	(Sonchus arvensis)
(25) Spotted knapweed.	(Centaurea maculosa)
(26) Squarrose knapweed.	(Centaurea virgata)
(27) Sulfur cinquefoil.	(Potentilla recta)
(28) Syrian bean caper.	(Zygophyllum fabago)
(29) Yellow starthistle.	(Centaurea solstitialis)
(30) Yellow toadflax.	(Linaria vulgaris)
Category B Weeds[2]:	
(1) Carolina horse nettle.	(Solanum carolinense)
(2) Diffuse knapweed.	(Centaurea diffusa)
(3) Leafy spurge.	(Euphorbia esula)
(4) Medusahead.	(Taeniatherum caput-medusae)
(5) Musk thistle.	(Carduus nutans)
(6) Russian knapweed.	(Acroptilon repens)
(7) Sahara mustard.	(Brassica tournefortii)
(8) Scotch thistle.	(Onopordum acanthium)
(9) White horse nettle.	(Solanum elaeagnifolium)
Category C Weeds[3]:	
(1) Canada thistle.	(Cirsium arvense)

(2) Hoary cress.	(Cardaria draba)
(3) Johnson grass.	(Sorghum halepense)
(4) Perennial pepperweed.	(Lepidium latifolium)
(5) Poison Hemlock.	(Conium maculatum)
(6) Puncture vine.	(Tribulus terrestris)
(7) Salt cedar (tamarisk).	(Tamarix spp.)
(8) Water Hemlock.	(Cicuta maculata)

[1]Category "A"

- Weeds not found or limited in distribution throughout the state
- Actively excluded from the state and actively eradicated wherever found
- Actively eradicated from nursery premises
- Control required by the state in all infestations

[2]Category "B"

- Weeds established in scattered populations in some counties of the state
- Actively excluded where possible
- Actively eradicated from nursery premises
- Control required by the state in areas where populations are not well-established or previously unknown to occur

[3]Category "C"

- Weeds currently established and generally widespread in many counties of the state
- Actively eradicated from nursery premises
- Abatement at the discretion of the State Quarantine Officer

[Dep't of Agriculture, No. 55.11, eff. 5-25-62; A 5-1-68]—(NAC A by St. Quarantine Officer, 8-9-94; R191-99, 8-7-2000; R097-01, 5-1-2002; R003-03, 9-24-2003; R109-04, 10-5-2004; R028-05, 10-31-2005; R020-06, 6-28-2006; R156-08, 2-11-2009)

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
APIACEAE - Carrot Family					
Apiaceae	*Cymopterus multinervatus*	Purplenerve Springparsley	Sandy and rocky slopes	per	
APOCYNACEAE - Milkweed Family					
Apocynaceae	*Amsonia tomentosa*	woolly bluestar/amsonia	desert plains, canyons	subshrub	
ASCLEPIADACEAE - Milkweed Family					
Asclepiadaceae	*Asclepias nyctaginifolia*	Mojave milkweed	arroyos, dry slopes	per	Apocynaceae
Asclepiadaceae	*Asclepias subulata*	rush milkweed, ajamete	arroyos, washes	ann	Apocynaceae
ASTERACEAE - Sunflower Family					
Asteraceae	*Acamptopappus sphaerocephalus var. sphaerocephalus*	rayless goldenhead	gravelly/rocky slopes, flats, desert to juniper woodland	shrub	
Asteraceae	*Adenophyllum cooperi*	Cooper's dogweed/dyssodia	dry sandy slopes and washes	subshrb	
Asteraceae	*Adenophyllum porophylloides*	San Felipe dogweed/dyssodia	dry rocky hillsides, washes	subshrb	
Asteraceae	*Ambrosia dumosa*	burro-weed	creosote bush scrub	shrub	
Asteraceae	*Ambrosia eriocentra*	woolly bur-sage	dry washes and slopes	shrub	
Asteraceae	*Baccharis sergiloides*	desert baccharis	gravelly or sandy stream beds	shrub	
Asteraceae	*Baileya multiradiata*	desert marigold	desert roadsides, flats washes hillsides	ann/per	
Asteraceae	*Bebbia juncea var. aspera*	sweetbush	dry rocky slopes, desert plains, washes	shrub	
Asteraceae	*Brickellia atrctyloides var. arguta*	pungent brickellbush, spearleaf brickellia	rocky places	shrub	
Asteraceae	*Brickellia incana*	woolly brickellbush	sandy washes, flats	shrub	*Brickellia atrctyloides var. arguta*

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
Asteraceae	*Calycoseris parryi*	yellow tackstem	sandy to gravelly slopes, washes	ann	
Asteraceae	*Chaenactis carphoclinia var. carphoclinia*	pebble pincushion	open rocks or gravel	ann	
Asteraceae	*Chaenactis fremontii*	Fremont pincushion	open sand or gravel	ann	
Asteraceae	*Chaenactis macrantha*	Mojave pincushion	open (often calcareous) san or gravel	ann	
Asteraceae	*Chaenactis stevioides*	desert pincushion	open flats, slopes	ann	
Asteraceae	*Chrysothamnus paniculatus*	black-stem	gravelly washes	shrub	*Ericameria paniculata*
Asteraceae	*Encelia farinosa*	brittlebush, incienso	slopes, washes, flats	shrub	
Asteraceae	*Encelia frutescens*	button brittlebush	desert washes, flats, slopes, roadsides	shrub	
Asteraceae	*Encelia virginensis*	Virgin River brittlebush	desert flats, rocky slopes, roadsides	shrub	
Asteraceae	*Ericameria cooperi*	Cooper's goldenbush	rocky slopes/valleys, creosote-bush scrub, Joshua-tree wdland	shrub	
Asteraceae	*Ericameria laricifolia*	turpentine bush	rocky canyons, creosote bush scrub, pinyon/juniper woodlnd	shrub	
Asteraceae	*Ericameria paniculata*	black-stem	gravelly washes	shrub	
Asteraceae	*Erigeron concinnus var. concinnus*	Navajo fleabane, shaggy daisy	sandy to rocky slopes, crevices	per	
Asteraceae	*Eriophyllum wallacei*	wooly Easterbonnets	chaparral, sagebrush, desert scrub or woodland	ann	
Asteraceae	*Gutierrezia sarothrae*	broom snakeweed	grasslands, deserts, montane areas	subshrub	
Asteraceae	*Hymenoclea salsola*	cheesebush	dry flats, washes, fans	subshrub	*Ambrosia salsola*
Asteraceae	*Malacothrix coulteri*	snake's head	sandy open areas,coastal sage, grassland, deserts	ann	
Asteraceae	*Malacothrix glabrata*	desert dandelion	coarse soils in open areas or amoung shrubs	ann	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
Asteraceae	*Monoptilon bellidiforme*	daisy desertstar	sandy deserts, washes	ann	
Asteraceae	*Monoptilon bellioides*	Mojave desertstar	sandy deserts, washes	ann	
Asteraceae	*Perityle emoryi*	Emory rock-daisy	desert plains, slopes, washes	ann	
Asteraceae	*Peucephyllum schottii*	pygmy cedar	rocky slopes, often amoung boulders	shrub	
Asteraceae	*Porophyllum gracile*	odora	rocky slopes	subshrub	
Asteraceae	*Prenanthella exigua*	prenanthella	desert canyons & valleys, juniper woodland	ann	
Asteraceae	*Psilostrophe cooperi*	whitestem paperflower	dry plains, hillsides, washes	subshrub	
Asteraceae	*Rafinesquia neomexicana*	desert chicory	sandy or gravelly desert soils	ann	
Asteraceae	*Stephanomeria exigua*	wire lettuce	desert scrub, dry disturbed ground	ann/shrub	
Asteraceae	*Stephanomeria pauciflora*	wire lettuce	dry flats, deserts	per/subshrb	
Asteraceae	*Stylocline micropoides*	desert nest straw	stable rocky or sandy often calcareous soils	ann	
Asteraceae	*Tetradymia stenolepis*	Mojave cottonthorn/horsebrush	Joshua-tree woodland, creosote-bush scrub	shrub	
Asteraceae	*Trichoptilium incisum*	yellowdome	dry slopes, plains	ann/per	
Asteraceae	*Uropappus lindleyi*	Lindley's silverpuffs	rocky soils chaparral or grassy slopes	ann	
Asteraceae	*Viguiera parishii*	Parish's goldeneye	washes, dry, rocky slopes	shrub	*Bahiopsis parishii*
Asteraceae	*Xylorhiza tortifolia var. tortifolia*	Mojave aster	desert slopes, canyons	per/subshrb	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
BORAGINACEAE - Borage Family					
Boraginaceae	*Amsinckia menziesii var. intermedia*	common fiddleneck	open disturbed areas	ann	
Boraginaceae	*Amsinckia tessellata var. tessellata*	bristly fiddleneck	sandy or gravelly areas, inland	ann	
Boraginaceae	*Cryptantha barbigera*		open, sandy to rocky soils	ann	
Boraginaceae	*Cryptantha circumscissa*	cushion cryptantha/catseye	sandy soils	ann	
Boraginaceae	*Cryptantha micrantha*	redroot cryptantha/catseye	sandy soils	ann	
Boraginaceae	*Cryptantha nevadensis*	Nevada cryptantha/catseye	sandy to gravelly soils	ann	
Boraginaceae	*Cryptantha petrocarya*	wingnut cryptantha	sandy to gravelly soils	ann	
Boraginaceae	*Pectocarya heterocarpa*		washes, roadsides, openings in creosote-bush shrub	ann	
Boraginaceae	*Pectocarya platycarpa*	broadfruit combseed	washes, roadsds creosote-bush scrub, joshua-tree woodlnd	ann	
Boraginaceae	*Pectocarya recurvata*	curvenut combseed	creosote-bush scrub, Joshua-tree woodland	ann	
Boraginaceae	*Plagiobothrys arizonicus*	Arizona popcornflower, blood weed	dry coarse soils in scrub or woodland	ann	
BRASSICACEAE - Mustard Family					
Brassicaceae	*Arabis pulchra var. gracilis*	beautiful/prince's rockcress	canyons, slopes, washes, limestone soils	per	
Brassicaceae	*Brassica tournefortii**	Asian/African mustard	roadsides, washes, open areas	ann	
Brassicaceae	*Caulanthus cooperi*	Cooper's wild cabbage/jewelflower	sandy or gravelly soils amonug shrubs	ann	
Brassicaceae	*Descurainia pinnata*	western/pinnate tansymustard	washes, slopes, often saline soils	ann	
Brassicaceae	*Draba cuneifolia*	wedgeleaf draba	open or disturbed areas	ann	
Brassicaceae	*Guillenia lasiophylla*	California mustard	dry open slopes, serpentine, burns	ann	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
Brassicaceae	*Lepidium fremontii*	desert allysum/pepperweed	sandy washes, gravelly soils, rocky slopes & ridges	per	
Brassicaceae	*Lepidium lasiocarpum var lasiocarpum*	hairypod pepperweed	dry flats, washes, roadsides, sagebrush	ann	*Lepidium lasiocarpum ssp. lasiocarpum*
Brassicaceae	*Lesquerella tenella*	moapa bladderpod	sandy soils, washes slopes	ann	*Physaria tenella*
Brassicaceae	*Sisymbrium irio**	London rocket	disturbed areas, roadsides, orchards	ann	
Brassicaceae	*Sisymbrium orientale**	oriental mustard	disturbed areas	ann	
Brassicaceae	*Thysanocarpus curvipes*	lacepod/fringe pod, ribbed fringepod	grassy or brushy slopes, moist meadows	ann	
Brassicaceae	*Thysanocarpus laciniatus*	crenate/ narrow-leaved fringe pod	dry rocky slopes and ridges	ann	
CACTACEAE - Cactus Family					
Cactaceae	*Echinocactus polycephalus var. polycephalus*	cottontop,clustered barrel cactus	rocky hills, silty valleys		
Cactaceae	*Echinocereus engelmannii*	hedgehog cactus, Engelmann's hedgehog	dry habitats	shrub	
Cactaceae	*Ferocactus cylindraceus*	California barrel cactus	gravelly, rocky or sandy areas		
Cactaceae	*Mammillaria tetrancistra*	common fishhook cactus	creosote-bush scrub	per	
Cactaceae	*Cylindropuntia acanthocarpa var. coloradensis*	buckhorn cholla	creosote-bush scrub, joshua-tree woodland	shrub	*Cylindropuntia acanthocarpa var.*
Cactaceae	*Opuntia basilaris var. basilaris*	beavertail cactus/pricklypear	desert, chaparral, pinyon-juniper woodland	shrub	
Cactaceae	*Cylindropuntia bigelovii*	teddy-bear cholla	creosote-bush scrub	shrub	*Cylindropuntia bigelovii*
Cactaceae	*Cylindropuntia echinocarpa*	silver/golden cholla	dry habitats	shrub	*Cylindropuntia echinocarpa*
Cactaceae	*Opuntia erinacea*	old man cactus, hairy prickly-pear	creosote-bush shrub to pine srub	shrub	*Opuntia polyacantha var.*
Cactaceae	*Opuntia parishii*	club/ mat cholla	sandy flats	shrub	*Grusonia parishii*
Cactaceae	*Cylindropuntia ramosissima*	pencil cactus, diamond cholla	desert flats	shrub	*Cylindropuntia ramosissima*
Cactaceae	*Sclerocactus johnsonii*	Johnson pineapple cactus, pygmy barrel cactus	granitic areas, creosote-bush scrub		*Echinomastus johnsonii*

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
CAMPANULACEAE - Bellflower Family					
Campanulaceae	*Nemacladus glanduliferus var. orientalis*	glandular threadplant	rocky slopes, sandy soils, washes	ann	*Nemacladus orientalis*
Campanulaceae	*Nemacladus rubescens*		dry, sandy or gravelly soils	ann	
CARYOPHYLLACEAE - Pink Family					
Caryophyllaceae	*Arenaria macradenia v macradenia*	desert sandwort	dry rocky slopes, alluvial deposits, often on carbonates	per	*Eremogone macrodenia var. macrodenia*
CHENOPODIACEAE - Goosefoot Family					
Chenopodiaceae	*Grayia spinosa*	spiny hop-sage	sandy to gravelly soils, shrubland, pinyon/juniper woodlnd	shrub	
Chenopodiaceae	*Krascheninnikovia lanata*	winter fat	rocky to clay soils, flats to gentle slopes	shrub	
Chenopodiaceae	*Salsola tragus**	Russian thistle, tumbleweed	disturbed areas	ann	
CUCURBITACEAE - Gourd Family					
Cucurbitaceae	*Cucurbita palmata*	coyote melon/gourd	sandy areas	vine	
CUSCUTACEAE - Dodder Family					
Cuscutaceae	*Cuscuta denticulata*	desert dodder	on herbs or shrubs, creosote bush scrub, joshua-tree wdlnd	ann	
EPHEDRACEAE - Ephedra Family					
Ephedraceae	*Ephedra nevadensis*	Nevada ephedra/Morman tea	creosote-bush scrub, Joshua-tree woodland	shrub	
Ephedraceae	*Ephedra viridis*	green ephedra	sagebrush, creosote-bush scrub, joshua tree woodland	shrub	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
EUPHORBIACEAE - Spurge Family					
Euphorbiaceae	*Chamaesyce albomarginata*	rattlesnake weed	dry slopes	per	
Euphorbiaceae	*Chamaesyce micromera*		sandy places	ann/per	
Euphorbiaceae	*Chamaesyce polycarpa*	smallseed sandmat	dry sandy slopes & flats	per	
Euphorbiaceae	*Ditaxis neomexicana*	common ditaxis	creosote-bush scrub	ann/per	
FABACEAE - Legume Family					
Fabaceae	*Acacia greggii*	catclaw	flats, washes	shrub/tree	*Senegalia greggii*
Fabaceae	*Astragalus acutirostris*		sandy or gravelly areas	ann	
Fabaceae	*Astragalus didymocarpus var. dispermus*	two-seeded/dwarf white milkvetch	sandy or gravelly areas	ann	
Fabaceae	*Astragalus layneae*	widow's milkvetch	sandy flats, washes	per	
Fabaceae	*Astragalus lentiginosus var. fremontii*	Fremont's milkvetch	open sand, gravel	ann/per	
Fabaceae	*Astragalus nuttallianus var. imperfectus*	turkey peas	sandy or gravelly flats or washes	ann	
Fabaceae	*Dalea mollis*	hairy prairieclover	creosote bush flats, washes, roadsides	ann	
Fabaceae	*Lotus humistratus*	hill lotus, foothill deervetch, maresfat	dry gravely or sandy slopes & ridges	ann	
Fabaceae	*Lotus strigosus*	strigose trefoil, bishop lotus	dry sandy or gravelly slopes or flats	ann	
Fabaceae	*Lupinus concinnus*	bajada lupine	open or disturbed areas, burns	ann	
Fabaceae	*Lupinus sparsiflorus*	Coulter's lupine	washes, sandy areas	ann	
Fabaceae	*Psorothamnus fremontii var. fremontii*	Fremont's indigo-bush/false dalea	granite and volcanic slopes, flats, canyons	shrub	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
GERANIACEAE - Geranium Family					
Geraniaceae	*Erodium cicutarium**	red-stemmed filaree	disturbed grassy slopes, pastures	ann	
Geraniaceae	*Erodium texanum*	Texas storksbill	dry open sites, shrubland	ann/bien	
HYDROPHYLLACEAE - Waterleaf Family					
Hydrophyllaceae	*Eucrypta chrysanthemifolia var. bipinnatifida*	spotted hideseed	cliffs, rocky slopes, crevices, washes	ann	Boraginaceae
Hydrophyllaceae	*Eucrypta micrantha*	desert hideseed/eucrypta	rocky crevices, washes, slopes	ann	Boraginaceae
Hydrophyllaceae	*Nama demissum var. demissum*	desert purple mat	sandy or gravelly flats	ann	Boraginaceae
Hydrophyllaceae	*Phacelia crenulata var.*	caterpillarweed, purple stem phacelia	sandy to gravelly washes, slopes	ann	Boraginaceae
Hydrophyllaceae	*Phacelia cryptantha*	hiddenflower/limestone phacelia	gravelly or rocky slopes, canyons	ann	Boraginaceae
Hydrophyllaceae	*Phacelia distans*	distant/common phacelia	clay or rocky soils, slopes	ann	Boraginaceae
Hydrophyllaceae	*Phacelia fremontii*	Fremont's phacelia	sandy or gravelly soils, shrubland, grassland	ann	Boraginaceae
Hydrophyllaceae	*Phacelia perityloides*	Rock phacelia	crevices on cliffs, rocky, often calcareous slopes	ann/per	Boraginaceae
Hydrophyllaceae	*Phacelia rotundifolia*	roundleaf phacelia	rocky slopes, cervices, ledges creosote scrub, pinyon/Juniper	ann	Boraginaceae

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
KRAMERIACEAE - Rhatany Family					
Krameriaceae	*Krameria erecta*	pima rhatany, purple heather	dry rocky ridges, slopes	shrub	
Krameriaceae	*Krameria grayi*	white rhatany	dry rocky or sandy areas, esp. lime soils	shrub	
LAMIACEAE - Mint Family					
Lamiaceae	*Hyptis emoryi*	desert Lavender	gravelly, sandy washes, canyons, desert shrubland	shrub	
Lamiaceae	*Salazaria mexicana*	Mexican bladder sage	sandy to gravelly slopes, washes, shrubland, woodland	shrub	
Lamiaceae	*Salvia columbariae*	chia	dry disturbed areas	ann	
Lamiaceae	*Salvia dorii var. piilosa*	hairy/purple sage	desert slopes, washes	shrub	
LILIACEAE - Lily Family					
Liliaceae	*Calochortus kennedyi var. kennedyi*	desert mariposa	heavy or rocky soils, creosote-bush scrub, pinyon/juniper	per	
Liliaceae	*Dichelostemma capitatum ssp. capitatum*	blue dicks	grassy slopes	per corm	
Liliaceae	*Yucca baccata*	banana yucca	dry joshua tree woodland	shrub	
Liliaceae	*Yucca brevifolia*	Joshua tree	desert flats & slopes	tree	
Liliaceae	*Yucca schidigera*	Mojave yucca	chaparral, creosote-bush scrub	shrub	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
LOASACEAE - Loasa Family					
Loasaceae	*Eucnide urens*	desert rock nettle/stingbush	cliffs, rocky slopes, washes	subshrb	
Loasaceae	*Mentzelia albicaulis*	whitestem blazingstar	shrubland to pinyon/juniper, gravel fans, washes	ann	
Loasaceae	*Mentzelia tricuspis*	spinyhair stickleaf, desert blazingstar	sandy or gravelly slopes in creosote-bush scrub	ann	
Loasaceae	*Mentzelia veatchiana*	Veatch's blazingstar, whitestem stickleaf	sandy grassland, shrubland, oak/pine woodland	ann	
MALVACEAE - Mallow Family					
Malvaceae	*Eremalche rotundifolia*	desert five-spot	dry desert scrub	ann	
Malvaceae	*Sphaeralcea ambigua*	desert globemallow, apricot mallow	desert scrub	ann	
NYCTAGINACEAE - Four O'Clock Family					
Nyctaginaceae	*Allionia incarnata*	trailing four-o-clock, windmills	creosote bush scrub	ann/per	
Nyctaginaceae	*Mirabilis bigelovii var. bigelovii*	Bigelow's four o'clock, desert wishbone bush	rocky places	per/subshrb	
Nyctaginaceae	*Mirabilis multiflora*	desert four o'clock	dry rocky or sandy areas	per	
OLEACEAE - Olive Family					
Oleaceae	*Menodora scoparia*	desert olive, broom twinberry	rocky slopes, canyons	per/shrub	
Oleaceae	*Menodora spinescens*	spiny menodora/desert olive	rocky slopes, canyons	shrub	
ONAGRACEAE - Evening primrose Family					
Onagraceae	*Camissonia boothii ssp.*			ann	
Onagraceae	*Camissonia brevipes ssp.*	golden suncup	sandy slopes, washes, alluvial fans	ann	
Onagraceae	*Camissonia chamaenerioides*	longcapsule/willow herb suncup	sandy slopes, flats, desert scrub	ann	
Onagraceae	*Camissonia claviformis ssp. claviformis*	browneyes	alluvial slopes, flats, ceosote-bush scrub	ann	
Onagraceae	*Camissonia refracta*	narrowleaf suncup	sandy slopes, flats, desert scrub	ann	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
OROBANCHACEAE - Broom-Rape Family					
Orobanchaceae	*Orobanche cooperi*	Broom-Rape	sandy flats, washes, on Asteraceae	ann/per	
PAPAVERACEAE - Poppy Family					
Papaveraceae	*Eschscholzia glyptosperma*	desert golden poppy	desert washes, flats, slopes	ann	
Papaveraceae	*Eschscholzia minutiflora*	pygmy golden poppy	desert washes, flats, slopes	ann	
PLANTAGINACEAE - Plantain Family					
Plantaginaceae	*Plantago ovata*	desert indianwheat	gravelly soils, desert, sagebrush, coastal strand	ann	
POACEAE - Grass Family					
Poaceae	*Achnatherum hymenoides*	indian ricegrass	dry well drained soils, desert shrubland, pinyon/juniper	per	
Poaceae	*Achnatherum speciosum*	desert needlegras	rocky slopes, canyons, washes	per	
Poaceae	*Aristida purpurea var. nealleyi*	Nealley three-awn	dry slopes, plains, shrubland	per	
Poaceae	*Cynodon dactylon**	bermuda grass	waste places	per	
Poaceae	*Bromus madritensis ssp. rubens**	foxtail chess, red brome	disturbed areas	ann	
Poaceae	*Erioneuron pulchellum*	fluff grass	sandy to rocky desert shrubland, woodland	per	
Poaceae	*Muhlenbergia porteri*	bush muhly	amoung boulders or shrubs, rocky slopes, cliffs	per	
Poaceae	*Pleuraphis rigida*	big galleta	dry open flats, washes, sandunes, scrub, woodland	per	
Poaceae	*Triden muticus*	slim tridens	dry, rocky, gen limestone soils, creosote-bush shrubland, pinyon/juniper woodland	per	
Poaceae	*Schismus barbatus**	old han schismus	dry, open, generally disturbed areas	ann	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
POLEMONIACEAE - Phlox Family					
Polemoniaceae	*Eriastrum eremicum ssp. eremicum*	desert woollystar/eriastrum	open areas in sandy soils	ann	
Polemoniaceae	*Gilia brecciarum ssp. brecciarum*	Nevada gilia	sandy flats in open shrubland, woodland	ann	
Polemoniaceae	*Gilia scopulorum*		semi-shaded rocky ravines	ann	
Polemoniaceae	*Langloisia setosissima ssp. setosissima*	Great Basin/bristly langloisia	desert washes, flats, slopes gravelly to sandy soil	ann	
Polemoniaceae	*Leptosiphon aureus ssp. aureus*	golden desert trumpets	desert flats	ann	*Leptosiphon aureus ssp. aureus*
Polemoniaceae	*Leptosiphon aureus ssp. decorus*	white desert trumpets	desert flats	ann	*Leptosiphon aureus ssp. decorus*
Polemoniaceae	*Linanthus demissus*	desertsnow, desert linanthus	limestone soils, desert pavement, sandy areas	ann	
Polemoniaceae	*Linanthus dichotomus*	evening snow	drying open areas, esp serpentine	ann	
Polemoniaceae	*Loeseliastrum schottii*	Schott's calico	desert washes, flats, slopes, sandy to gravelly	ann	
POLYGONACEAE - Buckwheat Family					
Polygonaceae	*Chorizanthe brevicornu*	brittle spineflower	desert scrub, sagebrush, juniper woodland	ann	
Polygonaceae	*Chorizanthe rigida*	spiny-herb, devil's spineflower, spiny chorizanthe	desert scrub, pavement	ann	
Polygonaceae	*Eriogonum angulosum*	anglestem buckwheat	dry open places, sand or clay	ann	
Polygonaceae	*Eriogonum deflexum var. deflexum*	flat-topped/flatcrown buckwheat	sand	ann	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
Polygonaceae	*Eriogonum deflexum var. rectum*	flat-topped buckwheat	sand	ann/shrub	
Polygonaceae	*Eriogonum fasciculatum var. polifolium*	California buckwheat		shrub	
Polygonaceae	*Eriogonum gracillimum*	rose & white buckwheat	clay to gravel	ann	
Polygonaceae	*Eriogonum inflatum*	desert trumpet	dry sand or gravel	ann/per	
Polygonaceae	*Eriogonum maculatum*	spotted buckwheat	gravel to clay soils	ann	
Polygonaceae	*Eriogonum nidularium*	birdnest buckwheat	sand or gravel flats, washes	ann	
Polygonaceae	*Eriogonum palmerianum*	Palmer's buckwheat	sand or gravel	ann	
Polygonaceae	*Eriogonum plumatella*	yucca/flattop buckwheat	dry sloopes & washes	shrub	
Polygonaceae	*Eriogonum pusillum*	yellow-turbans	sand or gravel	ann	
Polygonaceae	*Eriogonum thomasii*	Thomas buckwheat	sand or gravel	ann	
Polygonaceae	*Oxytheca perfoliata*	roundleaf puncturebract	sandy to rocky creosote-bush or pinyon scrub	ann	
RANUNCULACEAE - Buttercup Family					
Ranunculaceae	*Delphinium parishii ssp. parishii*	Parish's/desert larkspur	desert scrub, juniper woodland	per	
ROSACEAE - Rose Family					
Rosaceae	*Coleogyne ramosissima*	blackbush	dry open slopes, creosote bush scrub, pinyon/ juniper	shrub	
Rosaceae	*Prunus fasciculata var. fasciculata*	desert almond	slopes canyons, washes. Shrubland, woodland	shrub	

Table 2
Observed Flora
Searchlight Wind Farm Project
Clark County, Nevada

FAMILY	SCIENTIFIC NAME	COMMON NAME	HABITAT TYPE	LIFE CYCLE TYPE	Proposed Jepson 2nd Ed. Changes
RUBIACEAE - Madder Family					
Rubiaceae	*Galium stellatum var. eremicum*	Munz's/starry bedstraw	rocky slopes	shrub	
SCROPHULARIACEAE - Figwort Family					
Scrophulariaceae	*Antirrhinum filipes*	twining snapdragon	on shrubs & debris, gen in washes	ann	Plantaginaceae
Scrophulariaceae	*Mimulus bigelovii*	monkey flower	rocky desert slopes, margins of washes	ann/shrub	
SOLANACEAE - Nightshade Family					
Solanaceae	*Datura sp.*	Jimson weed		ann-per	
Solanaceae	*Lycium andersonii*	Anderson's wolfberry	gravelly or rocky slopes, washes	shrub	
Solanaceae	*Lycium cooperi*	Cooper's box thorn/wolfberry/peach thorn	sandy to rocky flats, washes	shrub	
Solanaceae	*Nicotiana obtusifolia*	desert tobacco	gravelly or rocky washes, slopes	ann/small tree	
Solanaceae	*Physalis crassifolia*	yellow nightshade groundcherry	gravelly to rocky flats, washes, slopes	per/subshrb	
VISCACEAE - Mistletoe Family					
Viscaceae	*Phoradendron californicum*	desert mistletoe	deserts on Acacia, Cercidium, Larrea(rare), Olneya, Prosopis	shrub	
ZYGOPHYLLACEAE - Caltrop Family					
Zygophyllaceae	*Larrea tridentata*	creosote bush	desert scrub	shrub	

* indicates species considered to be a weed (non-native, introduced, or naturalized)

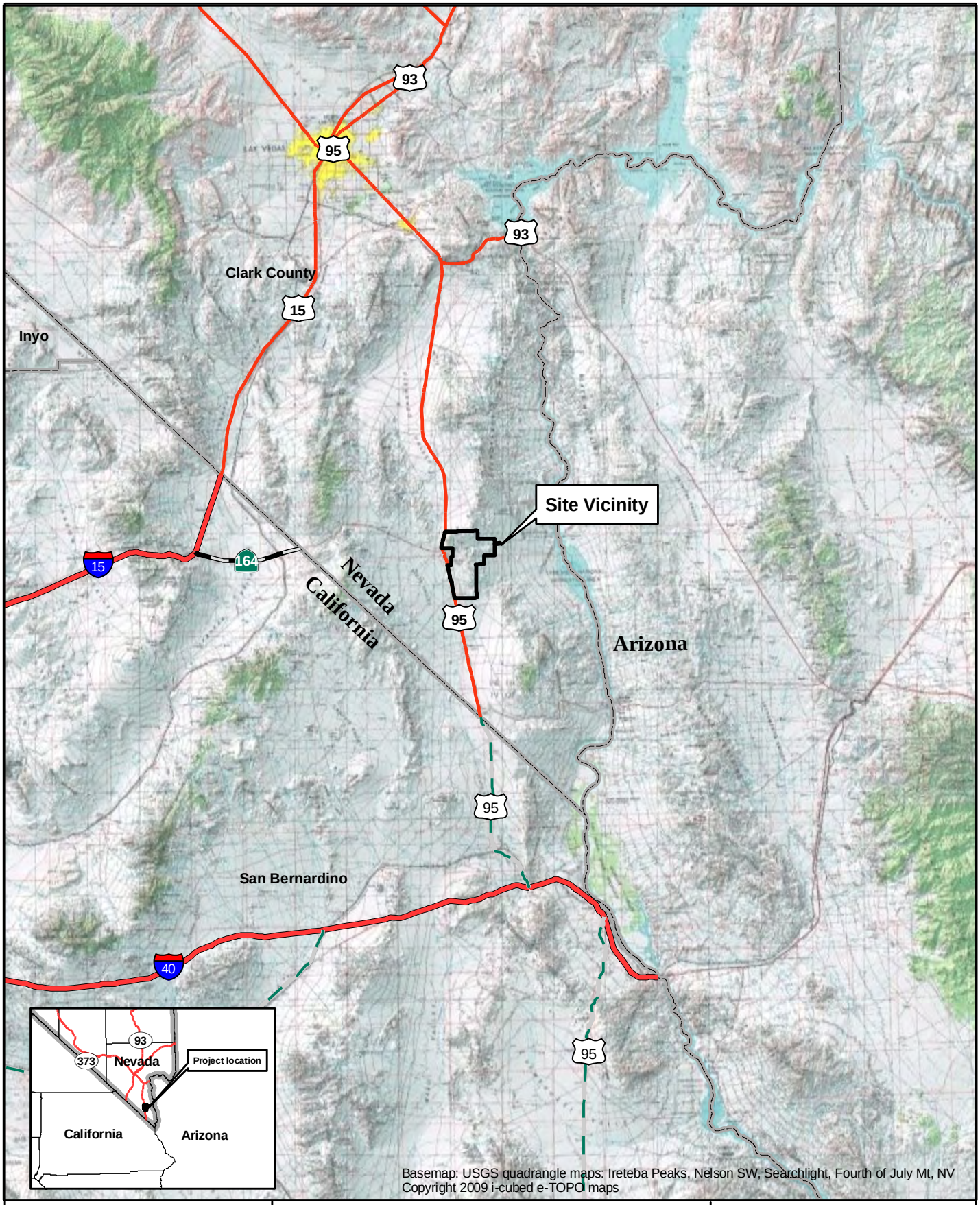
Table 3
Construction and Post-construction Weed Monitoring Timeline*
Searchlight Wind Farm
Clark County, Nevada

Monitoring Effort	**Construction**[1]	**Post-construction**[1]					**Comments**
		Year 1	Year 2	Year 3	Year 5	Continues bi-annually for life of project	
Known infestations	x	x	x	x	x	x	Annual site visits to monitor known infestations until weed control measures show significant improvement or control of weeds
Reclaimed areas (includes monitoring of re-seeding effort)	Re-seed	Primary and secondary growing season		x	x	x	Monitoring effort includes Identifying and assessing weed conditions
Identify new areas for treatment or control[2]	x	x		x	x	x	
Re-vegetation assessment		x		x		x	

*Monitoring times and conditions may change as needed and may vary from year-to-year.

1. All monitor times will occur in winter before fruiting occurs should treatment need to be applied, unless noted otherwise
2. In the event of any new infestation, the monitoring schedule may become more frequent

Appendix B



Legend

Project Boundary

Searchlight Wind Farm

0 10 20 30 Miles

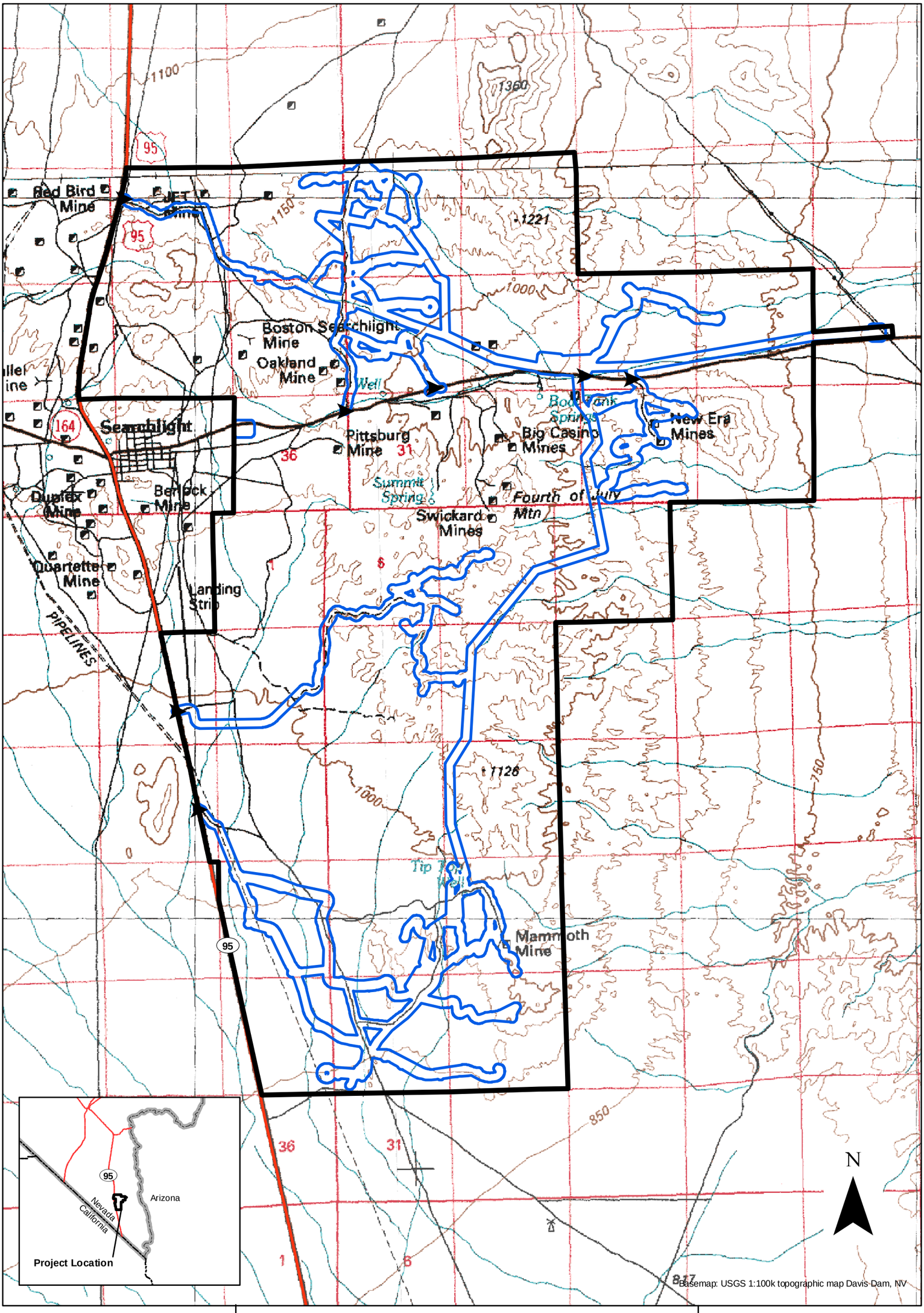
Project Number: 09-1034

Date: 11/17/2010

Plate 1
Site Location

Alphabiota

© Alphabiota, LLC 2010



Legend

- Access Points
- Survey Corridor (200 ft from centerline)
- Project Boundary

Searchlight Wind Farm

0 0.5 1 2 Miles

Scale 1:50,000

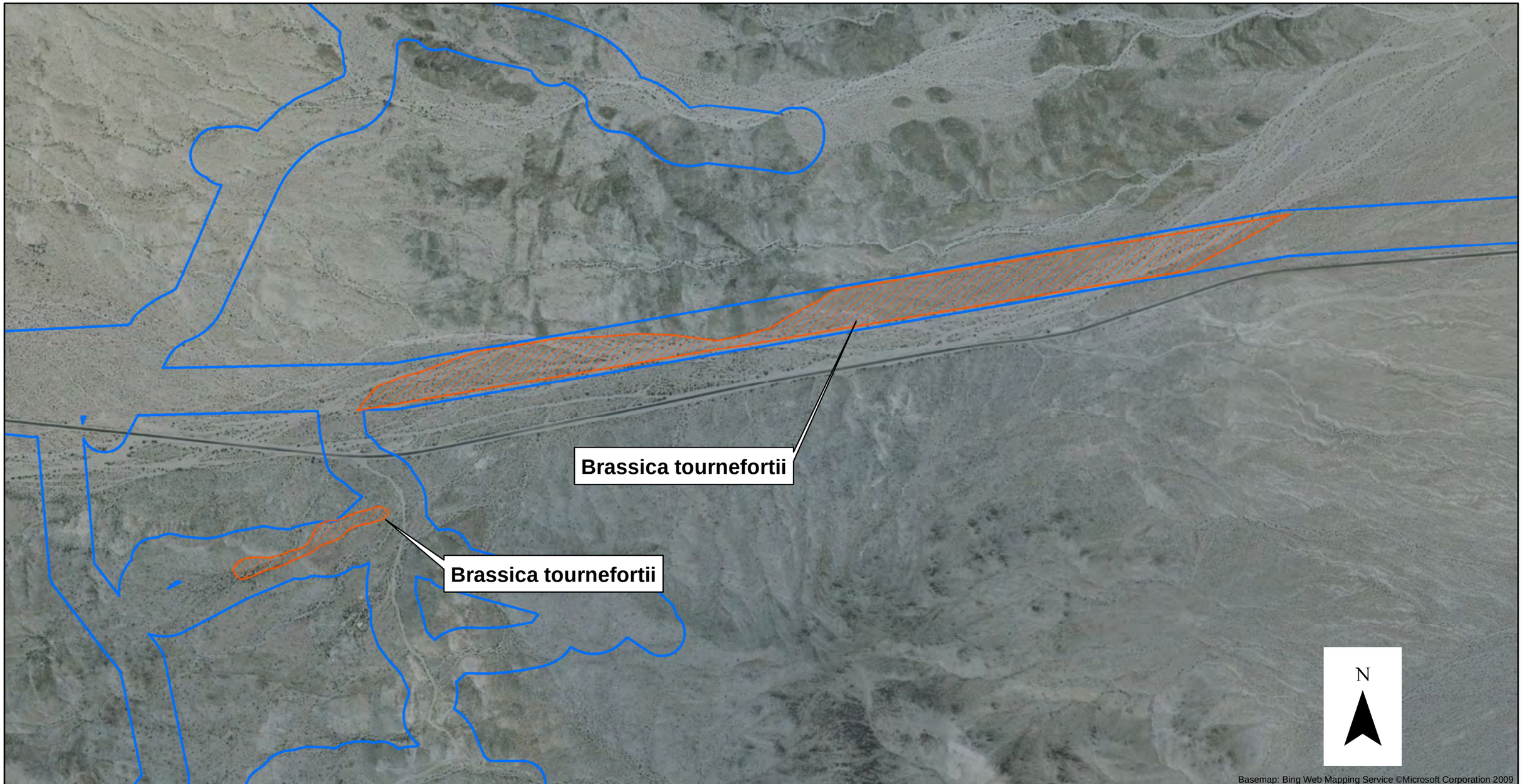
Project Number: 09-1034

Date: 11/17/2010

Plate 2
Project Boundary

Alphabiota

© Alphabiota, LLC 2010



Legend

Brassica tournefortii
(species observed in these areas)

Survey Corridor
(200 ft. from centerline)

Searchlight Wind Farm

0 1,000 2,000 3,000 Feet

Scale 1:10,000

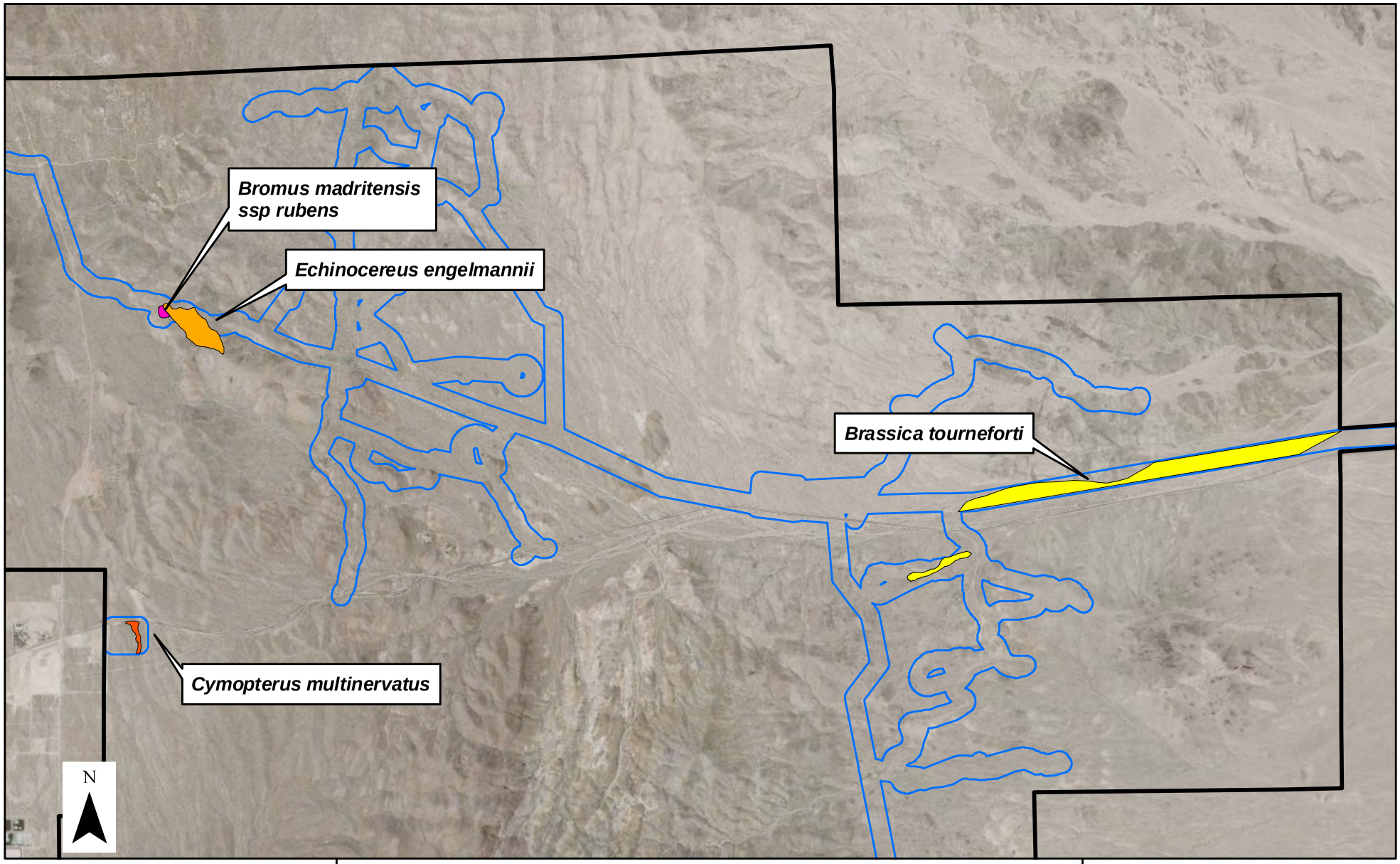
Project Number: 09-1034

Date: 11/17/2010

Plate 3
Brassica tournefortii

Alphabiota

© Alphabiota, LLC 2010



Legend

Plant location

Species observed in these areas

- Brassica tourneforti
- Cymopterus multinervatus
- Echinocereus engelmannii
- Bromus madritensis ssp rubens
- Project Boundary
- Survey Corridor (200 ft from centerline)

Searchlight Wind Farm

0 0.5 1 2 Miles

Scale 1:35,000

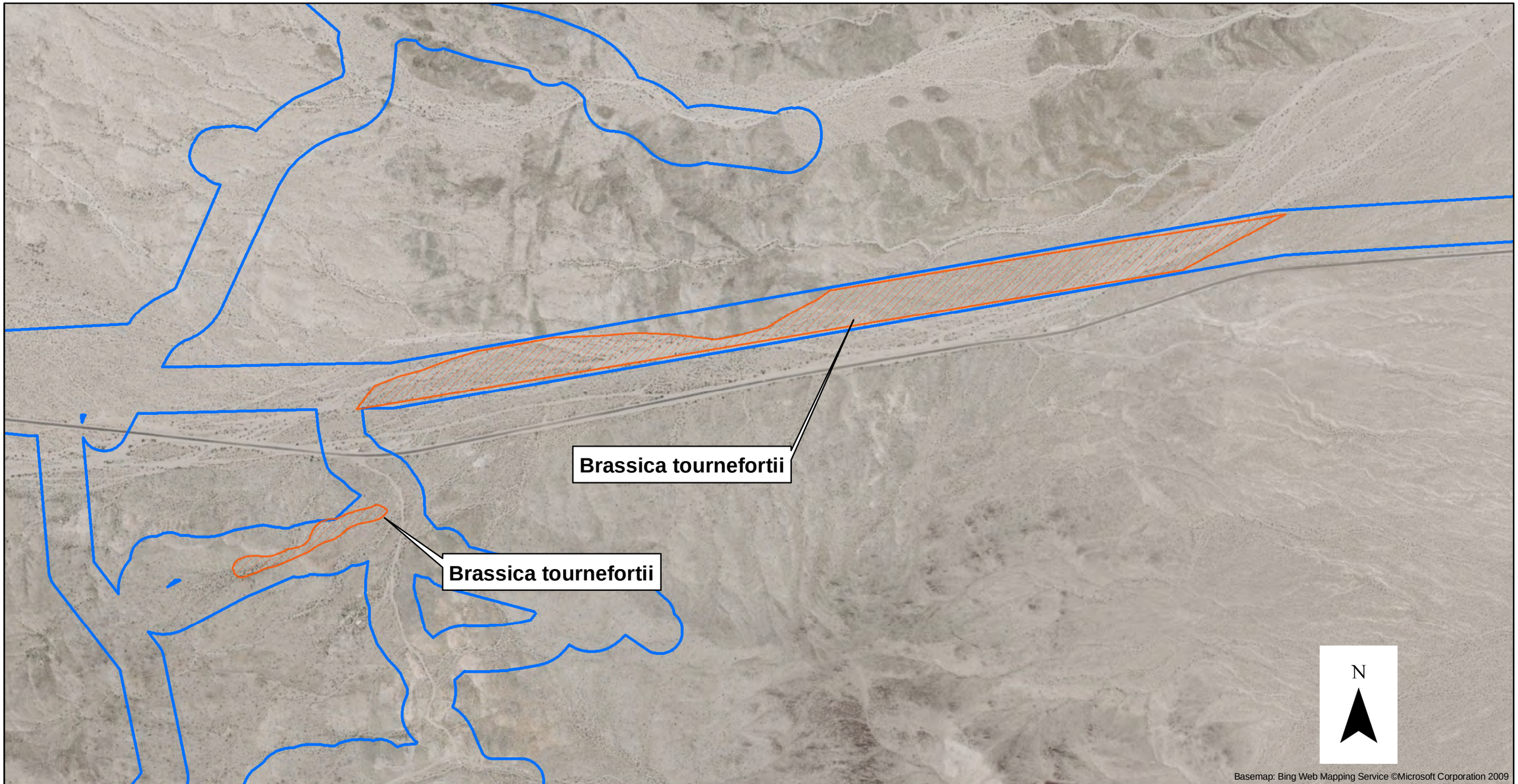
Project Number: 09-1034

Date: 11/17/2010

Plate 6
Plant Locations

Alphabiota
ENVIRONMENTAL CONSULTANTS

© Alphabiota, LLC 2010



Legend

Brassica tournefortii
(species observed in these areas)

Survey Corridor
(200 ft. from centerline)

Searchlight Wind Farm

0 1,000 2,000 3,000 Feet

Scale 1:10,000

Project Number: 09-1034

Date: 11/17/2010

Plate 8
Brassica tournefortii

Alphabiota

© Alphabiota, LLC 2010

Appendix C

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

				Update November 13, 2009	
	STATES WITH APPROVAL				
	BASED UPON CURRENT				
ACTIVE	EIS/ROD & COURT			EPA REG.	CA
INGREDIENT	INJUNCTIONS	TRADE NAME	MANUFACTURER	NUMBER	REG. **
Bromacil	AK, AZ, CA, CO, ID, MT, ND,	Bromacil 80DF	Alligare, LLC	81927-4	Y
	NE, NM, NV, OK, SD, TX, UT,	Hyvar X	DuPont	352-287	Y
	WA, WY	Hyvar XL	DuPont	352-346	Y
Bromacil +	AK, AZ, CA, CO, ID, MT, ND,	Bromacil/Diuron 40/40	Alligare, LLC	81927-3	Y
Diuron	NE, NM, NV, OK, SD, TX, UT,	Krovar I DF	DuPont	352-505	Y
	WA, WY	Weed Blast Res. Weed Cont.	Loveland Products Inc.	34704-576	N
		DiBro 2+2	Nufarm Americas Inc.	228-227	Y
		DiBro 4+4	Nufarm Americas Inc.	228-235	N
		DiBro 4+2	Nufarm Americas Inc.	228-386	N
		Weed Blast 4G	SSI Maxim	34913-19	N
Chlorsulfuron	AK, AZ, CA, CO, ID, MT, ND,	Telar DF	DuPont	352-522	Y
	NE, NM, NV, OK, SD, TX, UT,	Telar XP	DuPont	352-654	Y
	WA, WY	NuFarm Chlorsulf Pro 75 WDG Herbicide	Nufarm Americas Inc.	228-672	N
		Chlorsulfuron E-Pro 75 WDG	Nufarm Americas Inc.	79676-72	N
Clopyralid	AK, AZ, CA, CO, ID, MT, ND,	Spur	Albaugh, Inc.	42750-89	N
	NE, NM, NV, OK, SD, TX, UT,	Pyramid R&P	Albaugh, Inc.	42750-94	N
	WA, WY	Clopyralid 3	Alligare, LLC	42750-94-81927	Y
		Cody Herbicide	Alligare, LLC	81927-28	Y
		Reclaim	Dow AgroSciences	62719-83	N
		Stinger	Dow AgroSciences	62719-73	Y
		Transline	Dow AgroSciences	62719-259	Y
		CleanSlate	Nufarm Americas Inc.	228-491	Y

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Clopyralid +	AK, AZ, CA, CO, ID, MT, ND,	Commando	Albaugh, Inc.	42750-92	N
2,4-D	NE, NM, NV, OK, SD, TX, UT,	Curtail	Dow AgroSciences	62719-48	N
	WA, WY	Cutback	Nufarm Americas Inc.	71368-72	N
2,4-D	AK, AZ, CA, CO, ID, MT, ND,	Agrisolution 2,4-D LV6	Agriliance, L.L.C.	1381-101	N
	NE, NM, NV, OK, OR, SD, TX,	Agrisolution 2,4-D Amine 4	Agriliance, L.L.C.	1381-103	N
	UT, WA, WY	Agrisolution 2,4-D LV4	Agriliance, L.L.C.	1381-102	N
		2,4-D Amine 4	Albaugh, Inc./Agri Star	42750-19	Y
		2,4-D LV 4	Albaugh, Inc./Agri Star	42750-15	Y
		Solve 2,4-D	Albaugh, Inc./Agri Star	42750-22	Y
		2,4-D LV 6	Albaugh, Inc./Agri Star	42750-20	N
		Five Star	Albaugh, Inc./Agri Star	42750-49	N
		D-638	Albaugh, Inc./Agri Star	42750-36	N
		2,4-D LV6	Helena Chem. Co.	4275-20-5905	N
		2,4-D Amine	Helena Chem. Co.	5905-72	N
		Opti-Amine	Helena Chem. Co.	5905-501	N
		Barrage HF	Helena	5905-529	N
		HardBall	Helena	5905-549	N
		Unison	Helena	5905-542	N
		Amine 4CA 2,4-D Weed Killer	Loveland Products Inc.	34704-5	Y
		Clean Amine	Loveland Products Inc.	34704-120	N
		Low Vol 4 Ester Weed Killer	Loveland Products Inc.	34704-124	N
		Low Vol 6 Ester Weed Killer	Loveland Products Inc.	34704-125	N
		LV-6 Ester Weed Killer	Loveland Products Inc.	34704-6	Y
		Saber	Loveland Products Inc.	34704-803	N
		Saber CA	Loveland Products Inc.	34704-803	Y
		Salvo	Loveland Products Inc.	34704-609	N
		Savage DF	Loveland Products Inc.	34704-606	Y
		Aqua-Kleen	Nufarm Americas Inc.	71368-4	N
		Aqua-Kleen	Nufarm Americas Inc.	228-378	N
		Esteron 99C	Nufarm Americas Inc.	62719-9-71368	N
		Weedar 64	Nufarm Americas Inc.	71368-1	Y
		Weedone LV-4	Nufarm Americas Inc.	228-139-71368	Y

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
2,4-D - cont.	AK, AZ, CA, CO, ID, MT, ND,	Weedone LV-4 Solventless	Nufarm Americas Inc.	71368-14	Y
	NE, NM, NV, OK, OR, SD, TX,	Weedone LV-6	Nufarm Americas Inc.	71368-11	Y
	UT, WA, WY	Formula 40	Nufarm Americas Inc.	228-357	Y
		2,4-D LV 6 Ester	Nufarm Americas Inc.	228-95	Y
		Platoon	Nufarm Americas Inc.	228-145	N
		WEEDstroy AM-40	Nufarm Americas Inc.	228-145	Y
		Hi-Dep	PBI Gordon Corp.	2217-703	N
		2,4-D Amine	Setre (Helena)	5905-72	N
		Barrage LV Ester	Setre (Helena)	5905-504	N
		2,4-D LV4	Setre (Helena)	5905-90	N
		2,4-D LV6	Setre (Helena)	5905-93	N
		Clean Crop Amine 4	UAP-Platte Chem. Co.	34704-5 CA	Y
		Clean Crop Low Vol 6 Ester	UAP-Platte Chem. Co.	34704-125	N
		Salvo LV Ester	UAP-Platte Chem. Co.	34704-609	N
		2,4-D 4# Amine Weed Killer	UAP-Platte Chem. Co.	34704-120	N
		Clean Crop LV-4 ES	UAP-Platte Chem. Co.	34704-124	N
		Savage DF	UAP-Platte Chem. Co.	34704-606	Y
		Cornbelt 4 lb. Amine	Van Diest Supply Co.	11773-2	N
		Cornbelt 4# LoVol Ester	Van Diest Supply Co.	11773-3	N
		Cornbelt 6# LoVol Ester	Van Diest Supply Co.	11773-4	N
		Amine 4	Wilbur-Ellis Co.	2935-512	N
		Lo Vol-4	Wilbur-Ellis Co.	228-139-2935	N
		Lo Vol-6 Ester	Wilbur-Ellis Co.	228-95-2935	N
		Agrisolution 2,4-D LV6	Winflied Solutions, LLC	1381-101	N
		Agrisolution 2,4-D Amine 4	Winfield Solutions, LLC	1381-103	N
		Agrisolution 2,4-D LV4	Winfield Solutions, LLC	1381-102	N
Dicamba	AK, AZ, CA, CO, ID, MT, ND,	Dicamba DMA	Albaugh, Inc./Agri Star	42750-40	N
	NE, NM, NV, OK, OR, SD, TX,	Vision	Albaugh, Inc.	42750-98	N
	UT, WA, WY	Cruise Control	Alligare, LLC	42750-40-81927	N
		Banvel	Arysta LifeScience N.A. Corp.	66330-276	Y
		Clarity	BASF Ag. Products	7969-137	Y
		Rifle	Loveland Products Inc.	34704-861	Y

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Dicamba - cont.	AK, AZ, CA, CO, ID, MT, ND,	Banvel	Micro Flo Company	51036-289	Y
	NE, NM, NV, OK, OR, SD, TX,	Diablo	Nufarm Americas Inc.	228-379	Y
	UT, WA, WY	Vanquish Herbicide	Nufarm Americas Inc.	228-397	Y
		Vanquish	Syngenta	100-884	N
		Sterling Blue	Winfield Solutions, LLC	7969-137-1381	Y
Dicamba +	AK, AZ, CA, CO, ID, MT, ND,	Outlaw	Albaugh, Inc./Agri Star	42750-68	N
2,4-D	NE, NM, NV, OK, OR, SD, TX,	Range Star	Albaugh, Inc./Agri Star	42750-55	N
	UT, WA, WY	Weedmaster	BASF Ag. Products	7969-133	Y
		Rifle-D	Loveland Products Inc.	34704-869	N
		KambaMaster	Nufarm Americas Inc.	71368-34	N
		Veteran 720	Nufarm Americas Inc.	228-295	Y
		Brash	Winfield Solutions, LLC	1381-202	N
Dicamba +	AZ, CO, ID, MT, ND, NE, NM,	Distinct	BASF Ag. Products	7969-150	N
Diflufenzopyr	NV, OK, SD, TX, UT, WA, WY	Overdrive	BASF Ag. Products	7969-150	N
Diquat	AK, AZ, CA, CO, ID, MT, ND, NE,	Reward	Syngenta Crop Prot., Inc.	100-1091	Y
	NM, NV, OK, SD, TX, UT, WA, WY	NuFarm Diquat Pro 2L Herbicide	Nufarm Americas Inc.	228-675	N
		Nufarm Diquat 2L Herbicide	Nufarm Americas Inc.	228-675	N
		Diquat E-Pro 2L	Nufarm Americas Inc.	79676-75	Y
Diuron	AK, AZ, CA, CO, ID, MT, ND,	Diuron 80DF	Agriliance, L.L.C.	9779-318	N
	NE, NM, NV, OK, SD, TX, UT,	Diuron 80DF	Alligare, LLC	81927-12	Y
	WA, WY	Karmex DF	DuPont	352-692	Y
		Karmex XP	DuPont	352-692	Y
		Karmex IWC	DuPont	352-692	Y
		Direx 4L	DuPont	352-678	Y
		Direx 80DF	Griffin Company	1812-362	Y
		Direx 4L	Griffin Company	1812-257	Y
		Diuron 4L	Loveland Products Inc.	34704-854	Y
		Diuron 80 WDG	Loveland Products Inc.	34704-648	N
		Diuron 4L	Makteshim Agan of N.A.	66222-54	N

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Diuron - cont.	AK, AZ, CA, CO, ID, MT, ND,	Diuron 80WDG	UAP-Platte Chem. Co.	34704-648	N
	NE, NM, NV, OK, SD, TX, UT,	Vegetation Man. Diuron 80 DF	Vegetation Man., LLC	66222-51-74477	N
	WA, WY	Diuron-DF	Wilbur-Ellis	00352-00-508-02935	N
		Diuron 80DF	Winfield Solutions, LLC	9779-318	N
Fluridone	AK, AZ, CA, CO, ID, MT, ND,	Avast!	SePRO	67690-30	Y
	NE, NM, NV, OK, SD, TX, UT,	Sonar AS	SePRO	67690-4	Y
	WA, WY	Sonar Precision Release	SePRO	67690-12	Y
		Sonar Q	SePRO	67690-3	Y
		Sonar SRP	SePRO	67690-3	Y
Glyphosate	AK, AZ, CA, CO, ID, MT, ND,	Aqua Star	Albaugh, Inc./Agri Star	42750-59	Y
	NE, NM, NV, OK, OR, SD, TX,	Forest Star	Albaugh, Inc./Agri Star	42570-61	Y
	UT, WA, WY	Gly Star Original	Albaugh, Inc./Agri Star	42750-60	Y
		Gly Star Plus	Albaugh, Inc./Agri Star	42750-61	Y
		Gly Star Pro	Albaugh, Inc./Agri Star	42750-61	Y
		Glyphosate 4 PLUS	Alligare, LLC	81927-9	Y
		Glyphosate 5.4	Alligare, LLC	81927-8	Y
		Glyfos	Cheminova	4787-31	Y
		Glyfos PRO	Cheminova	67760-57	Y
		Glyfos Aquatic	Cheminova	4787-34	Y
		ClearOut 41	Chem. Prod. Tech., LLC	70829-2	N
		ClearOut 41 Plus	Chem. Prod. Tech., LLC	70829-3	N
		Accord Concentrate	Dow AgroSciences	62719-324	Y
		Accord SP	Dow AgroSciences	62719-322	Y
		Accord XRT	Dow AgroSciences	62719-517	Y
		Accord XRT II	Dow AgroSciences	62719-556	Y
		Glypro	Dow AgroSciences	62719-324	Y
		Glypro Plus	Dow AgroSciences	62719-322	Y
		Rodeo	Dow AgroSciences	62719-324	Y
		Mirage	Loveland Products Inc.	34704-889	Y
		Mirage Plus	Loveland Products Inc.	34704-890	Y
		Aquamaster	Monsanto	524-343	Y

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Glyphosate - cont.	AK, AZ, CA, CO, ID, MT, ND,	Roundup Original	Monsanto	524-445	Y
	NE, NM, NV, OK, OR, SD, TX,	Roundup Original II	Monsanto	524-454	Y
	UT, WA, WY	Roundup Original II CA	Monsanto	524-475	Y
		Honcho	Monsanto	524-445	Y
		Honcho Plus	Monsanto	524-454	Y
		Roundup PRO	Monsanto	524-475	Y
		Roundup PRO Concentrate	Monsanto	524-529	Y
		Roundup PRO Dry	Monsanto	524-505	Y
		Roundup PROMAX	Monsanto	524-579	Y
		Aqua Neat	Nufarm Americas Inc.	228-365	Y
		Credit Xtreme	Nufarm Americas Inc.	71368-81	Y
		Foresters	Nufarm Americas Inc.	228-381	Y
		Razor	Nufarm Americas Inc.	228-366	Y
		Razor Pro	Nufarm Americas Inc.	228-366	Y
		GlyphoMate 41	PBI Gordon Corp.	2217-847	Y
		AquaPro Aquatic Herbicide	SePRO Corporation	62719-324-67690	Y
		Rattler	Setre (Helena)	524-445-5905	Y
		Buccaneer	Tenkoz	55467-10	Y
		Buccaneer Plus	Tenkoz	55467-9	Y
		Mirage Herbicide	UAP-Platte Chem. Co.	524-445-34704	Y
		Mirage Plus Herbicide	UAP-Platte Chem. Co.	524-454-34704	Y
		Glyphosate 4	Vegetation Man., LLC	73220-6-74477	Y
		Cornerstone	Winfield Solutions, LLC	1381-191	Y
		Cornerstone Plus	Winfield Solutions, LLC	1381-192	Y
		Rascal	Winfield Solutions, LLC	1381-191	N
		Rascal Plus	Winfield Solutions, LLC	1381-192	N
Glyphosate +	AK, AZ, CA, CO, ID, MT, ND,	Landmaster BW	Albaugh, Inc./Agri Star	42570-62	N
2,4-D	NE, NM, NV, OK, OR, SD, TX,	Campaign	Monsanto	524-351	N
	UT, WA, WY	Landmaster BW	Monsanto	524-351	N

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Glyphosate +	AK, AZ, CA, CO, ID, MT, ND,	Fallowmaster	Monsanto	524-507	N
Dicamba	NE, NM, NV, OK, OR, SD, TX,	GlyKamba	Nufarm Americas Inc.	71368-30	N
	UT, WA, WY				
Hexazinone	AK, AZ, CA, CO, ID, MT, ND,	Velpar ULW	DuPont	352-450	N
	NE, NM, NV, OK, SD, TX, UT,	Velpar L	DuPont	352-392	Y
	WA, WY	Velpar DF	DuPont	352-581	Y
		Pronone MG	Pro-Serve	33560-21	N
		Pronone 10G	Pro-Serve	33560-21	Y
		Pronone 25G	Pro-Serve	33560-45	N
Hexazinone +	AK, AZ, CO, ID, MT, ND, NE,	Westar	DuPont Crop Protection	352-626	Y
Sulfometuron methyl	NM, NV, OK, SD, TX, UT, WA, WY	Oustar	DuPont Crop Protection	352-603	Y
NOTE: In accordance with the Record of Decision for the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS), the aerial application of these herbicides is prohibited.					
Imazapic	AZ, CO, ID, MT,ND, NE, NM,	Panoramic 2SL	Alligare, LLC	66222-141-81927	N
	NV, OK, SD, TX, UT, WA, WY	Plateau	BASF	241-365	N
		Imazapic E 2 SL	Etigra, LLC	79676-65	N
Imazapic +	AZ, CO, ID, MT,ND, NE, NM,	Journey	BASF	241-417	N
Glyphosate	NV, OK, SD, TX, UT, WA, WY				
Imazapyr	AK, AZ, CA, CO, ID, MT, ND,	Imazapyr 2SL	Alligare, LLC	81927-23	N
	NE, NM, NV, OK, SD, TX, UT,	Imazapyr 4SL	Alligare, LLC	81927-24	N
	WA, WY	Ecomazapyr 2SL	Alligare, LLC	81927-22	N
		Arsenal Railroad Herbicide	BASF	241-273	N
		Chopper	BASF	241-296	Y
		Arsenal Applicators Conc.	BASF	241-299	N
		Arsenal	BASF	241-346	N
		Arsenal PowerLine	BASF	241-431	N
		Stalker	BASF	241-398	N

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Imazapyr - cont.	AK, AZ, CA, CO, ID, MT, ND,	Habitat	BASF	241-426	Y
	NE, NM, NV, OK, SD, TX, UT,	Imazapyr E-Pro 2 - VM &	Etigra, LLC	81959-8	Y
	WA, WY	Aquatic Herbicide			
		Imazapyr E-Pro 4 - Forestry	Etigra, LLC	81959-9	N
		Imazapyr E-Pro 2E - Site Prep & Basal	Etigra, LLC	81959-7	N
		Polaris	Nufarm Americas Inc.	228-534	Y
		Polaris AC	Nufarm Americas Inc.	241-299-228	Y
		Polaris AC	Nufarm Americas Inc.	228-480	Y
		Polaris AQ	Nufarm Americas Inc.	241-426-228	Y
		Polaris RR	Nufarm Americas Inc.	241-273-228	N
		Polaris SP	Nufarm Americas Inc.	228-534	Y
		Polaris SP	Nufarm Americas Inc.	241-296-228	Y
		Polaris Herbicide	Nufarm Americas Inc.	241-346-228	N
		SSI Maxim Arsenal 0.5G	SSI Maxim Co., Inc.	34913-23	N
		Ecomazapyr 2 SL	Vegetation Man., LLC	74477-6	N
		Imazapyr 2 SL	Vegetation Man., LLC	74477-4	N
		Imazapyr 4 SL	Vegetation Man., LLC	74477-5	N
Imazapyr +	AK, AZ, CA, CO, ID, MT, ND, NE,	Mojave 70 EG	Alligare, LLC	74477-9-81927	N
Diuron	NM, NV, OK, SD, TX, UT, WA, WY	Sahara DG	BASF	241-372	N
		Imazuron E-Pro	Etigra, LLC	79676-54	N
		SSI Maxim Topsite 2.5G	SSI Maxim Co., Inc.	34913-22	N
Imazapyr +	AK, AZ, CA, CO, ID, MT, ND,	Lineage Clearstand	DuPont	352-766	N
Metsulfuron methyl	NE, NM, NV, OK, SD, TX, UT,				
	WA, WY				

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Imazapyr +	AK, AZ, CA, CO, ID, MT, ND,	Lineage HWC	DuPont	352-765	N
Sulfometuron methyl +	NE, NM, NV, OK, SD, TX, UT,	Lineage Prep	DuPont	352-767	N
Metsulfuron methyl	WA, WY				
NOTE: In accordance with the Record of Decision for the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS), the aerial application of these herbicides is prohibited.					
Metsulfuron methyl	AK, AZ, CO, ID, MT, ND, NE,	MSM 60	Alligare, LLC	81927-7	N
	NM, NV, OK, SD, TX, UT, WA,	Escort DF	DuPont	352-439	N
	WY	Escort XP	DuPont	352-439	N
		MSM E-AG 60 EG Herbicide	Etigra, LLC	81959-14	N
		MSM E-Pro 60 EG Herbicide	Etigra, LLC	81959-14	N
		Patriot	Nufarm Americas Inc.	228-391	N
		PureStand	Nufarm Americas Inc.	71368-38	N
		Metsulfuron Methyl DF	Vegetation Man., L.L.C.	74477-2	N
Metsulfuron methyl +	AK, AZ, CO, ID, MT, ND, NE,	Cimarron Extra	DuPont	352-669	N
Chlorsulfuron	NM, NV, OK, SD, TX, UT, WA,	Cimarron Plus	DuPont	352-670	N
	WY				
Metsulfuron methyl +	AK, AZ, CO, ID, MT, ND, NE, NM	Cimarron MAX	DuPont	352-615	N
Dicamba + 2,4-D	NV, OK, SD, TX, UT, WA, WY				
Picloram	AZ, CO, ID, MT, ND, NE, NM,	Triumph K	Albaugh, Inc.	42750-81	N
	NV, OK, OR, SD, TX, UT, WA,	Triumph 22K	Albaugh, Inc.	42750-79	N
	WY	Picloram K	Alligare, LLC	42750-81-81927	N
		Picloram K	Alligare, LLC	81927-17	N
		Picloram 22K	Alligare, LLC	42750-79-81927	N
		Picloram 22K	Alligare, LLC	81927-18	N
		Grazon PC	Dow AgroSciences	62719-181	N
		OutPost 22K	Dow AgroSciences	62719-6	N
		Tordon K	Dow AgroSciences	62719-17	N
		Tordon 22K	Dow AgroSciences	62719-6	N
		Trooper 22K	Nufarm Americas Inc.	228-535	N

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Picloram +	AZ, CO, ID, MT, ND, NE, NM,	GunSlinger	Albaugh, Inc.	42750-80	N
2,4-D	NV, OK, OR, SD, TX, UT, WA,	Picloram + D	Alligare, LLC	42750-80-81927	N
	WY	Picloram + D	Alligare, LLC	81927-16	N
		Tordon 101M	Dow AgroSciences	62719-5	N
		Tordon 101 R Forestry	Dow AgroSciences	62719-31	N
		Tordon RTU	Dow AgroSciences	62719-31	N
		Grazon P+D	Dow AgroSciences	62719-182	N
		HiredHand P+D	Dow AgroSciences	62719-182	N
		Pathway	Dow AgroSciences	62719-31	N
		Trooper 101	Nufarm Americas Inc.	228-561	N
		Trooper P + D	Nufarm Americas Inc.	228-530	N
Picloram +	AZ, CO, ID, MT, ND, NE, NM,	Trooper Extra	Nufarm Americas Inc.	228-586	N
2,4-D +	NV, OK, OR, SD, TX, UT, WA,				
Dicamba	WY				
Sulfometuron methyl	AK, AZ, CA, CO, ID, MT, ND,	SFM 75	Alligare, LLC	81927-26	Y
	NE, NM, NV, OK, SD, TX, UT	Oust DF	DuPont	352-401	N
	WA, WY	Oust XP	DuPont	352-601	Y
		SFM E-Pro 75EG	Etigra, LLC	79676-16	Y
		Spyder	Nufarm Americas Inc.	228-408	Y
		SFM 75	Vegetation Man., L.L.C.	72167-11-74477	Y
NOTE: In accordance with the Record of Decision for the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS), the aerial application of these herbicides is prohibited.					
Sulfometuron methyl +	AK, AZ, CA, CO, ID, MT, ND,	Landmark XP	DuPont	352-645	Y
Chlorsulfuron	NE, NM, NV, OK, SD, TX, UT				
	WA, WY				
NOTE: In accordance with the Record of Decision for the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS), the aerial application of this herbicide is prohibited.					

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Sulfometuron methyl +	AK, AZ, CA, CO, ID, MT, ND, NE,	Oust Extra	DuPont	352-622	N
Metsulfuron methyl	NM, NV, OK, SD, TX, UT, WA, WY				
NOTE: In accordance with the Record of Decision for the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS), the aerial application of this herbicide is prohibited.					
Tebuthiuron	AZ, CA, CO, ID, MT, ND, NE,	Spike 20P	Dow AgroSciences	62719-121	Y
	NM, NV, OK, SD, TX, UT, WA,	Spike 80DF	Dow AgroSciences	62719-107	Y
	WY	SpraKil S-5 Granules	SSI Maxim Co., Inc.	34913-10	Y
Tebuthiuron +	AZ, CA, CO, ID, MT, ND, NE, NM,	SpraKil SK-13 Granular	SSI Maxim Co., Inc.	34913-15	Y
Diuron	NV, OK, SD, TX, UT, WA, WY	SpraKil SK-26 Granular	SSI Maxim Co., Inc.	34913-16	Y
Triclopyr	AK, AZ, CA, CO, ID, MT, ND,	Triclopyr 4EC	Alligare, LLC	72167-53-74477	Y
	NE, NM, NV, OK, SD, TX, UT	Triclopyr 3	Alligare, LLC	81927-13	Y
	WA, WY	Triclopry 4	Alligare, LLC	81927-11	Y
		Element 3A	Dow AgroSciences	62719-37	Y
		Element 4	Dow AgroSciences	62719-40	Y
		Forestry Garlon XRT	Dow AgroSciences	62719-553	Y
		Garlon 3A	Dow AgroSciences	62719-37	Y
		Garlon 4	Dow AgroSciences	62719-40	Y
		Garlon 4 Ultra	Dow AgroSciences	62719-527	Y
		Remedy	Dow AgroSciences	62719-70	Y
		Remedy Ultra	Dow AgroSciences	62719-552	Y
		Pathfinder II	Dow AgroSciences	62719-176	Y
		Relegate	Nufarm Americas Inc.	228-521	Y
		Tahoe 3A	Nufarm Americas Inc.	228-384	Y
		Tahoe 3A	Nufarm Americas Inc.	228-518	Y
		Tahoe 3A	Nufarm Americas Inc.	228-520	Y
		Tahoe 4E	Nufarm Americas Inc.	228-385	Y
		Tahoe 4E Herbicide	Nufarm Americas Inc.	228-517	Y
		Renovate 3	SePRO Corporation	62719-37-67690	Y
		Renovate OTF	SePRO Corporation	67690-42	Y
		Ecotriclopyr 3 SL	Vegetation Man., LLC	72167-49-74477	N
		Triclopyr 3 SL	Vegetation Man., LLC	72167-53-74477	N

APPENDIX C

APPROVED HERBICIDES FOR USE ON BLM LANDS*

ACTIVE INGREDIENT	STATES WITH APPROVAL BASED UPON CURRENT EIS/ROD & COURT INJUNCTIONS	TRADE NAME	MANUFACTURER	EPA REG. NUMBER	CA REG. **
Triclopyr +	AK, AZ, CA, CO, ID, MT, ND,	Everett	Alligare, LLC	81927-29	Y
2,4-D	NE, NM, NV, OK, SD, TX, UT,	Crossbow	Dow AgroSciences	62719-260	Y
	WA, WY	Candor	Nufarm Americas Inc.	228-565	Y
Triclopyr +	AK, AZ, CA, CO, ID, MT, ND,	Prescott Herbicide	Alligare, LLC	81927-30	Y
Clopyralid	NE, NM, NV, OK, SD, TX, UT,	Redeem R&P	Dow AgroSciences	62719-337	Y
	WA, WY	Brazen	Nufarm Americas Inc.	228-564	Y

* Refer to the complete label prior to considering the use of any herbicide formulation. Label changes can impact the intended use through, such things as, creation or elimination of Special Local Need (SLN) or 24 (c) registrations, changes in application sites, rates and timing of application, county restrictions, etc.

** Just because a herbicide has a Federal registration, and is approved under the current EIS, it may or may not be registered for use in California. This column identifies those formulations for which there is a California registration.

Appendix B-2: USFWS Biological Opinion

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130
Ph: (702) 515-5230 ~ Fax: (702) 515-5231

September 26, 2012
File No. 84320-2012-F-0211

Memorandum

To: Assistant Field Manager, Division of Renewable Resources, Bureau of Land Management, Las Vegas Field Office, Las Vegas, Nevada

From: State Supervisor, Nevada Fish and Wildlife Office, Reno, Nevada

Subject: Biological Opinion for the Searchlight Wind Energy Project, Clark County, Nevada

As requested in your April 12, 2012, memorandum, attached is the Fish and Wildlife Service's (Service) biological opinion for the Searchlight Wind Energy Project. The Bureau of Land Management (BLM) determined that the proposed approval of issuance of a right-of-way grant for the subject project may adversely affect the Mojave desert tortoise (*Gopherus agassizii*), a species listed as threatened under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*). In addition, BLM determined that the project may adversely affect designated Mojave desert tortoise critical habitat.

The attached biological opinion is based on information provided in your memoranda dated April 12, 2012; the March 2012, biological assessment for the project; discussions and electronic transmissions among the Service and BLM, the project consultant (Tetra Tech); and our files. A complete project file of this consultation is available in the Service's Nevada Fish and Wildlife Office in Las Vegas.

If you require additional assistance concerning the biological opinion, please contact Susan Cooper in the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230. Please reference File No. 84320-2012-F-0211 in future correspondence concerning this consultation.

In addition, the Service has a legal mandate and trust responsibility to maintain healthy, migratory bird populations for the benefit of the American public pursuant to the Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 *et seq.*), and the Bald and Golden Eagle Protection Act (Eagle Act) (16 U.S.C. 668-668d). The Eagle Act prohibits a variety of actions with respect to eagles, including their "take." "Take" under the Eagle Act is defined as "pursue, shoot, shoot at,

poison, wound, kill, capture, trap, collect, or molest or disturb." Anyone who takes an eagle is in violation of the Eagle Act unless the take has been authorized by the Secretary of the Interior (see 50 C.F.R 22.26, 22.27). No one is required to seek a permit for any activity; however, where an activity results in take, it is a violation of the Eagle Act unless a permit authorizing that take has been obtained prior to the action.

The construction and operation of the Searchlight Wind Project has the potential to result in the "take" of golden eagles. We appreciate the efforts by the BLM and Duke Energy to develop a Bird and Bat Conservation Strategy (BBCS) for the project. Under the Service's current direction we recommend energy proponents develop an Eagle Conservation Plan to address potential project impacts to eagles and develop a BBCS to identify minimization and avoidance measures to address impacts to other migratory bird species. We encourage Duke Energy to continue to coordinate with the Service to develop an Eagle Conservation Plan in a manner that would be consistent with the Service's goal of maintaining a stable or increasing breeding population for golden eagles, and then to apply for a golden eagle programmatic take permit. We encourage the BLM and Duke Energy to continue your coordination with Dr. Chris Nicolai [chris_nicolai@fws.gov, (775-861-6333)] and Ms. Heather Beeler [heather_ beeler@fws.gov, (916- 414-6651)] with our Migratory Bird Program with respect to compliance with the Eagle Act for the Searchlight Wind Project.

Edward D. Koch
State Supervisor

cc:
Supervisory Biologist – Habitat, Nevada Department of Wildlife, Las Vegas, Nevada

ATTACHMENT

BIOLOGICAL OPINION
FILE NO. 84320-2012-F-0211

CONSULTATION HISTORY

On April 30, 2009, Tetra Tech, a consultant to Duke Energy (Duke), contacted the Fish and Wildlife Service (Service) on behalf of the Bureau of Land Management (BLM) requesting information regarding sensitive species potentially occurring near the proposed Searchlight Wind Energy Facility (SWEF). On June 10, 2009, the Service responded to this request (84320-2009-SL-0343), identifying the occurrence of the Mojave desert tortoise (*Gopherus agassizii*) (hereafter, desert tortoise or tortoise) in the project area.

On February 28, 2012, Tetra Tech, BLM, and Service personnel conducted a visit to the project site to review the occupied desert tortoise habitat where project features would occur. Discussion topics included minimization measures, post-construction monitoring, project access, and project features.

On April 12, 2012, the Service received BLM's request for consultation and biological assessment (Tetra Tech 2012) for the subject project and determined the submitted materials were sufficient to initiate consultation.

On August 16, 2012, the Service sent BLM a notification of a 60-day extension for the consultation to allow the Service additional time for review of the draft biological opinion.

DESCRIPTION OF THE PROPOSED ACTION

Searchlight Wind Energy, LLC (Searchlight Wind; Applicant) a wholly-owned subsidiary of Duke has applied to BLM for a right-of-way (ROW) grant on public land to develop a wind energy project (NVN-084626). Searchlight Wind is proposing to develop a 200-megawatt (MW) wind energy facility on a site located in southern Clark County, Nevada (Figure 1). Western Area Power Administration (WAPA) proposes to construct, operate, and maintain a new switching station to interconnect the SWEF project and has submitted a ROW application (NVN-086777) to BLM for construction and operation of the switching station. The interconnection switching station is analyzed as part of the proposed action.

The project area for the proposed action lies to the north of the Newberry and south of the Eldorado Mountain ranges in southern Clark County, Nevada. It is situated approximately 1.5 miles west of Lake Mead National Recreation Area, 60 miles southeast of Las Vegas and 40 miles north of Laughlin, Nevada. Specifically, the project area for the proposed action

encompasses lands approximately 0.5 mile northeast to 3 miles southeast of the town of Searchlight (Figure 1).

The footprint of the proposed action occurs within a project area that is approximately 8,400 acres of land, of which approximately 388.5 acres of habitat would be disturbed. Included in the 388.5 acres is the 7 acres of disturbance needed for the WAPA interconnection switching station, which would occur in Mojave desert tortoise critical habitat (CH) (Service 2011). Although the location of the proposed interconnection switching station falls within CH, it would be located within 0.5 mile of State Route 164 (SR-164), a Federal aid designated highway traversing the Area of Critical Environmental Concern (ACEC). Development within BLM ACECs (and thus CH in the case of the project) is allowable under BLM's Resource Management Plan when development is within 0.5 mile of Federal aid highways.

Facilities and Structures

Wind Turbines

The proposed action would involve the construction of 87 2.3-MW wind turbine generators (WTG) that would provide up to 200 MW of electricity. Wind turbines consist of three principal components that would be assembled and erected during construction: the tower, the nacelle, and the rotor assembly. The Applicant proposes to use the Siemens Model 2.3-101 MW WTG with a 331-foot rotor diameter on a 262-foot tower (turbine hub height). These modern wind turbines would have maximum height of up to 427.5 feet with three mounted rotor blades, each 165 feet in length.

Access Roads

All roads would be constructed for the specific purpose of the proposed action and be used as primary access routes for all larger turbine components delivered to the project area, as well as for construction, operation and maintenance crews, and smaller materials delivery. They would be located to minimize ground disturbance, avoid sensitive resources (e.g., biological habitat) and maximize transportation efficiency.

Regional and local access to the area would be via U.S. Highway (US-95) and SR-164. Access to the proposed project facilities would be provided by newly constructed extensions of existing north and south access roads, and upgraded or partially realigned (to reduce maximum grade to 10 percent or less, or to increase the inside radius of turns on the road) existing access roads that begin from US-95 and SR-164. New roads would link the individual turbines, substations, and other project facilities.

From the north end of Fourth of July Mountain, the existing road from SR-164 would be upgraded to a gravel road and would be the primary access route for all larger turbine components. New gravel turbine string roads would be constructed to link the turbines. The turbine string roads would be designed to enable the transport of large cranes between each

individual turbine site. New short spur roads would be constructed along the turbine strings to access each individual turbine.
Each turbine manufacturer has slightly different equipment transport and crane requirements. These requirements dictate road width and road turn radius. Although the Applicant has proposed using the Siemens 2.3 MW WTG, the type and brand of turbines installed would be determined by commercial factors within the timeframe of the proposed action schedule. To allow safe passage of the large transport equipment used in construction, gravel roads would be built which consist of an aggregate road base over compacted native material per geotechnical recommendations, and with adequate drainage and compaction to handle 15-ton-per-axle leads. Road widths would range between 16 and 36 feet. BLM would require that all roads be designed, built, surfaced, and maintained to minimize ground disturbance, and to provide safe operating conditions at all times.

Electrical System

Each wind turbine would generate electricity at approximately 690 volts. The low voltage from each turbine generator would be increased via a pad-mounted transformer located at each turbine to the 34.5-kV level required for the medium-voltage collector system. The power collection system would consist of medium-voltage, high-density, insulated underground cables that connect each turbine transformer to one of two on-site substations. These underground cables would be buried in trenches located adjacent to the roadbed of the turbine connector roads, wherever technically feasible. At the substations, voltage would be further increased to 230 kV. The two on-site substations would be connected with a 6.1-mile, 230-kV overhead transmission line. The stepped-up power would then be delivered from the northern substation through the 2.6-mile transmission interconnect line to the proposed WAPA switching station, which would provide an interconnection with WAPA's Davis-Mead transmission line.

Underground Communications System

The wind turbine generators would be operated via a Supervisory Control and Data Acquisition (SCADA) system mounted on the control panel inside the tower of each WTG. Each turbine would be connected via fiber optic cable to a central computer in an operation and maintenance (O&M) building. Data could be accessed, and the WTGs could be controlled, either on site or remotely. The fiber optic communications cable would be co-located with the electrical collection system to reduce environmental impacts. Where feasible, collection cabling and communication lines would be co-located with roads to minimize environmental impacts.

Substations

Two project substations are proposed: one in the northeastern portion of the project area (adjacent to SR-164) and one in the southern portion of the project site (south of Tip Top Well Road). The proposed substations' main functions would be to step-up the voltage from the collection lines (34.5 kV) to the transmission line level (230 kV) and to provide electrical fault protection. Based on the transmission system studies conducted by WAPA, the Applicant would install capacitor banks at each of the two project 230-kV substations. The basic elements of the step-up substation facilities would be a control house, one or two main transformers, outdoor

breakers, capacitor banks, relaying equipment, high-voltage bus work, steel support structures, an underground grounding grid, and overhead lightning suppression conductors. All of the main outdoor electrical equipment and control house would be installed on a concrete foundation. Each substation site would consist of a graveled footprint area of approximately 1.5 acres, a 12-foot chain link perimeter fence, and an outdoor lighting system.

Transmission Lines

Overhead 230-kV transmission lines are proposed for the 6.1-mile transmission line. This proposed line would connect the two project substations and the 2.6-mile transmission line to a proposed interconnection switching station (WAPA) to connect with the 230-kV Davis-Mead transmission line. The Applicant proposes to support the transmission line conductors from steel monopole structures. Each monopole structure would be approximately 80 to 100 feet tall and be spaced at approximately 500-foot intervals. The 230-kV transmission line conductors would maintain the required National Electrical Safety Code (NESC) clearances of 22.5 feet for 230 kV over terrain subject to vehicular traffic plus an additional safety buffer (typically 5 feet). The conductor would be attached to the structures at varying heights to maintain the required NESC wire-to-ground clearances between structures.

The design for the 2.6-mile transmission line to WAPA's proposed switching station would be subject to WAPA's review and may be modified to meet WAPA's requirements during the design phase for the proposed project. In addition, WAPA would require the installation of an overhead optical ground wire containing fiber optics to provide communication between WAPA's proposed switching station and the Applicant's system.

The Collection System would be a buried conductor tying several of the WTGs together in a circuit to collect the power generated at the WTGs and routing that power to the project substation where it would be stepped up to the 230-kV transmission voltage. At several locations along the transmission lines, it may be advantageous to install the Collection System Conductor aboveground due to elevation changes, limited easement, cost of installation, minimization of environmental impact, and geotechnical conditions which would not allow it to be buried. An underbuilt circuit on the 2.6-mile transmission line to WAPA's proposed switching station would be subject to WAPA's review.

Meteorological Towers

Four permanent anemometer (wind measurement) towers have been installed at strategic locations along the turbine strings. These meteorological towers are approximately 180 to 200 feet (55 to 60 meters) in height and have anemometers mounted at varying distances above the ground. Information collected from the anemometers would be relayed to the O&M building via the proposed project's communication system. The meteorological towers have been constructed of tubular steel structures and are perch-discouraging for raptors and other large birds.

O&M Facility

The O&M facility would be located east of the town of Searchlight and along the south side of SR-164. The O&M facility would include a main building with offices, spare parts storage, restrooms, a septic system, a shop area, outdoor parking facilities, a turnaround area for larger vehicles, outdoor lighting, and a gated access with partial or full-perimeter fencing. Power for the O&M facility would come from the local electric grid. The O&M building would have a foundation footprint of approximately 60 by 140 feet. The projected permanent footprint of the O&M facility (including parking area) would be approximately 5 acres. The building would be of composite materials constructed or painted to match the surrounding landscape color. Portable water supplies would be used in the building, and sewage disposal would be by means of an onsite septic tank. Telecommunication lines and SCADA system would be installed.

Construction

The proposed action would use standard construction procedures used for other wind power projects in the western United States. These procedures, with minor modification to allow for site-specific circumstances and differences among turbine manufacturers, are summarized below. Additionally, project construction and operations would follow BLM's best management practices (BMPs) as described in the Appendix B of BLM's biological assessment. Construction is anticipated to continue for approximately 8 months.

Traffic

Construction of the proposed project roads, facilities, transmission lines, and electrical/communication lines would occur at approximately the same time, using individual vehicles for multiple tasks. During the construction period, there would be approximately 60 round trips per day to the site on existing roads by vehicles transporting construction personnel and small equipment. Over the entire construction period, there would be a maximum of 625 trips of large trucks delivering the turbine components and related equipment to the site. In addition, there would be more than 9,025 truck trips by dump trucks, concrete trucks, water trucks, cranes, and other construction and trade vehicles.

A traffic management plan would be prepared for project construction to minimize hazards from the increased truck traffic and to minimize impacts on traffic flow on local roads and highways. This plan would incorporate measures, such as informational signs, traffic flaggers when equipment may result in blocked throughways, traffic cones, and flashing lights, to identify any necessary changes in temporary road configuration. During construction, refueling and maintaining vehicles that are authorized for highway travel would be performed off site at an appropriate facility. Construction vehicles that are not highway-authorized would be serviced on the project site by a maintenance crew using a specially designed vehicle maintenance truck.

Road Construction

The minimum full-surfaced width for project access roads would be 16 feet. The roadways connecting turbine sites would be 16 feet wide with 10 foot shoulders needed for movement of

the turbine erection crane. Cut-and-fill slopes would be at a ratio of two horizontal to one vertical making actual cleared area for construction (inclusive of grade, shoulder and road) between 36 and 48 feet depending on topography. Equipment clearance would require a minimum inside radius of 148 feet at all turns, and would be graded to within no more than 6 inches of rise or drop in any 50-foot length. Turnouts may be needed to allow for safe passing of construction vehicles and would be 16 feet wide and 210 feet long. Road shoulders would be removed and restored post construction.

No material quarries would be located on BLM or other Federal lands. Any needed fill or road base material in excess of that generated from road cut activities would be obtained from a licensed, certified weed free off-site private source. Weed free topsoil removed during road construction would be stockpiled at project laydown areas. The stockpiled topsoil would be spread on cut-and-fill slopes, and then re-vegetated following guidelines in the SWEF Reclamation, Restoration, and Revegetation Plan upon completion of road construction.

Construction traffic would be restricted to the roads developed for the project. Use of existing, unimproved roads would be for emergency situations only. Along all roads, flaggers with two-way radios would be used to control construction traffic and reduce the potential for accidents. To avoid unnecessary impacts on vegetation, construction equipment would be limited to construction corridors and to designated staging/equipment laydown area footprints. Additional information on vehicle speeds is described in the *Conservation Measures* section below (Conservation Measure 10).

To help limit the spread and establishment of an invasive plant species community within disturbed areas, prompt establishment of the desired vegetation would be required. Seeding and transplanting would occur as soon as possible during the optimal period after construction using certified "weed-free" seed and native species to the extent possible, in a mix prescribed by BLM and methods described in the Weed Management Plan.

<u>Laydown Areas</u>
Two temporary laydown areas would be required near the proposed electrical substation locations. Access to the laydown areas would be via existing but upgraded roads leading from US-95 north of Searchlight and SR-164 east of Searchlight. The laydown areas would be temporary and used during construction only. Each laydown area would be approximately 10 acres and may be fenced for security for the duration of its use. Areas of identified sensitive habitat near laydown areas would be fenced off with caution tape to prevent damage. During construction, equipment, cable, foundation parts, components, towers, blades, nacelles, etc., may be temporarily stored either at one of the two laydown areas, or in temporary laydown areas at the base of each WTG location. All equipment and components would be supported on wooden frames, pallets, or straw bales, which would be placed on the ground while turbine components are loaded, pre-assembled, or awaiting installation. A mobile concrete batch plant and rock crusher would be located within one laydown area and relocated to the other as necessary during construction.

Turbine Pads and Foundations

At the location of each turbine pad, an assembly area would be required for off-loading, storage, and assembly of up to three tower sections, nacelle, rotor hub, and blades, called a lay down area. In level or near-level terrain, this laydown area would not need to be graded or cleared of vegetation. If the terrain is not level, the laydown area would be cleared and graded to create a level surface. Construction access to this area would be limited to wheeled vehicles and due to activity, some crushing of vegetation and soil compaction would be expected. Within this laydown area, a smaller section of approximately 60-foot by 60-foot area would be cleared of vegetation and graded. The cleared and graded area would facilitate construction of the turbine foundation.

To allow a large, track-mounted crane to access the turbine foundations, a crane pad would be constructed adjacent to the turbine access road. It would be constructed using standard cut-and-fill compacted road construction procedures. To allow the crane to safely lift the large and extremely heavy turbine components, the crane pad must be nearly flat. Wind turbine foundation designs would be based on the load requirements of the selected WTG and the load-bearing characteristics of the soil. Prior to construction, geotechnical investigations would be conducted to determine the soil characteristics at each WTG location. These geotechnical data would assist the project proponent in the selection of the appropriate WTG foundation type.

A typical foundation for a 2.3-MW WTG would be a reinforced concrete spread foundation resting directly on soil approximately 10 feet belowground. The foundation generally would be an octagon shape from 40 to 60 feet wide with a concrete pier on the top of the mat extending to ground level. Each foundation would require approximately 300 cubic yards of concrete. In the north portion of the project area, bedrock may be present within a few inches to 2 feet of the ground surface at some WTG locations. In these instances, a "Rock Anchor" type foundation could be required. In the Rock Anchor design, the rock would be removed to a depth of approximately 5 feet and a diameter of approximately 24 feet by mechanical removal methods and possibly engineered blasting.

In the southern portion of the project area, the tensionless tube foundation design may be utilized. With this foundation design, either by mechanical or explosive means, a 20-foot diameter by 30-foot-deep excavation is made, then two concentric corrugated metal pipes,
12 feet and 16 feet in diameter, are installed in the excavation. The inside of the smaller pipe and the outside of the larger pipe are then backfilled with the excavation materials. If the soils of the south area are not conducive to a tensionless tube foundation, the spread foundation design would be utilized in this area.

Grounding

To adequately ground the turbines to prevent damage from electrical storms, 3-inch-diameter, 30-foot-deep holes may be required for placement of turbine grounding rods as needed. These holes would be located adjacent to the turbine foundations within the 90-foot-diameter area to be

cleared for foundation construction. Following placement of the grounding rods, the holes would be backfilled and capped with concrete.

Tower Erection

Tower erection would require the use of one large track-mounted crane and two small-wheeled cranes. Two smaller wheeled cranes would be used to off-load turbine components from trucks, and to assist in the precise alignment of tower sections. The smaller crane would be used first to raise and install the two bottom tower sections, and then used to lower it over the threaded foundation bolts. The large crane would then raise the upper mid- and upper-tower section to be bolted through the attached flanges to the lower tower section, and to raise the nacelle, rotor hub, and blades to be installed atop the towers.

Underground Communication and Electrical Cables

Trenching equipment would be used to excavate trenches within or near the access road bed to bury the insulated underground cables that would connect each turbine transformer to one of the two project substations. Trenches for the large conductor cable would be approximately 42 inches deep, and backfilled with engineered trench material to protect the cables from damage or possible contact. Optical fiber communication links would be placed in the same trenches as the conductor cables. The depth, number of trenches, and backfill requirements would be determined by the size of the cable required and the thermal conductivity of the soil or rock surrounding the trench.

Transmission Line Construction

Overhead 230-kV transmission lines construction would use standard industry procedures including surveying, ROW preparation, materials hauling, structure assembly and erection, ground wire, conductor stringing, cleanup, and restoration. All transmission lines and structures would be designed to prevent the perching of birds. Construction procedures described below would be the same for the proposed 6.1-mile transmission line between the on-site substations and the 2.6-mile transmission line connecting to the WAPA proposed switching station.

Overhead 230-kV transmission interconnect lines would be constructed on monopole structures. The monopole structures typically would be set in auger holes approximately 3.6 feet in diameter and about 10 feet deep; if consolidated rock is encountered structure, holes would be advanced using mechanical removal methods and possibly engineered blasting. All blasting would be conducted by a permitted contractor, and would be in compliance with State and Federal regulations. Structures would be assembled on site. Structure erection and conductor stringing would occur sequentially along the ROW.

Existing public and private roads would be used to transport materials and equipment from laydown areas to ingress points along the proposed transmission line ROW using the shortest distance possible. The ROW would be used to access transmission line construction sites. The transmission lines would require the installation of temporary access routes. The access routes would be 12 feet wide, and cleared of large boulders to allow high-clearance, four-wheel-drive

vehicles to pass. The routes would be installed to allow access to support the construction of the transmission lines. Clearing of vegetation and minor grading may be necessary at some of the transmission line structures to facilitate their construction. Once construction is complete, some access routes would be used approximately twice a year for inspection and maintenance. Native vegetation would be allowed to re-establish over the routes to the extent that four-wheel-drive vehicle travel remains practical.

Temporary Concrete Batch Plant

The proposed project would require more than 40,000 cubic yards of concrete for construction of the wind tower foundations, substations, and O&M facility. Depending upon weather conditions, concrete typically needs to be poured within 90 minutes of its mixing with water. Delivery time to pour locations would likely exceed 90 minutes from existing concrete suppliers in the vicinity of the proposed project area. Therefore, a temporary, mobile concrete batch plant would be located within the laydown areas to facilitate the sub-90 minute delivery time needed. If concrete is mixed at the mobile batch plant, as opposed to existing concrete suppliers, cement, water, and aggregate would be staged in the laydown areas.

The batch plant would operate during project construction hours for approximately 4 to 5 months of the anticipated 8-month construction period. To construct the mobile batch plant, vegetation would be cleared and the ground leveled. For the containment of process water, a 1-foot-high earth berm or other appropriate erosion control device, such as silt fences and straw bales, would be installed around the area. Diversion ditches would be installed as necessary to prevent storm-water from surrounding areas running onto the site.

The batch plant would require a stand-alone, diesel-powered 250-kW generator. The generator would draw diesel fuel from an approximately 500-gallon aboveground storage tank with secondary storage for spill prevention. It is estimated that the batch plant would consume 2,000 to 4,000 gallons of water per day. An onsite 4,000-gallon water tank would be replenished as needed. The batch plant operation would be permitted by the Nevada Division of Environmental Protection.

Stockpiles of sand and aggregate would be located at the batch plant in a manner that would minimize exposure to wind. Cement would be discharged via screw conveyor directly from an elevated storage silo without outdoor storage. Cement trucks would be cleaned and washed at the batch plant. Cement residue would be washed from the cement delivery trucks into an aboveground lined and bermed settling pond. Cement residue would be collected from the settling pond and trucked off site for disposal, as needed.

Following completion of construction activities requiring cement, the batch plant would be demobilized, and the batch plant area would be restored. The area would be recontoured, stockpiled topsoil would be replaced, and the area would be restored according to the Reclamation, Restoration, and Revegetation Plan.

Portable Rock Crusher

To construct the proposed project's roads, a rock crusher would be required to provide appropriately-sized aggregate for fill and road base. The rock crusher would have an average capacity that could be more than 30,000 tons per day. The crusher would be located within the laydown areas and operated during project construction hours for approximately 4 to 5 months of the anticipated 8-month construction period. In accordance with BMPs, the rock crushing area would be sprayed by a water truck to suppress dust. The crusher contains several dust-suppression features including: built-in dust control measures on the crusher, including screens and water sprayers that would be operated at all emission points during crusher operation, including startup and shut down periods, as required by the Clark County Department of Air Quality and Environmental Management.

Water Use

During construction, water would be needed for dust control, making concrete, and equipment washing. All needed water would be transported from an off-site municipal or private source. No wells would be drilled or springs developed for the proposed project.

Post-Construction Clean Up

Final clean up and restoration of the proposed project area would occur immediately following construction. Waste materials would be removed from the area and recycled or disposed of at appropriate facilities. All construction-related waste would be properly handled in accordance with county, State, and Federal regulations and permit requirements. This waste may include vegetation, trash and litter, garbage, other solid waste, petroleum products, and other potentially hazardous materials. Excess material, such as soil and rocks excavated during the construction of the project, would be stockpiled at a location on site and made available as a saleable material.

Construction Work Force

A peak of approximately 250 to 300 workers per day would be required for construction of the proposed project. The beginning and end of the construction period would involve a slightly lower number of workers than required during the middle months. Construction of the proposed project would be completed over an approximate 8-month period.

Operation and Maintenance

Following installation and startup, routine maintenance of the turbines would be necessary to maximize performance and detect potential difficulties. Routine activities primarily would consist of daily visits by maintenance workers that would test and maintain the wind facilities. A standard planned maintenance schedule on each turbine is twice a year; once at the 6-month point and once at the 12-month point. The 6-month maintenance takes about 8 hours (1 day) and the 12-month maintenance takes about 16 hours (2 days). Based on this schedule, technicians work on only one turbine a day. If multiple turbines require simultaneous maintenance, an effort would be made to select neighboring turbines. The only other visits to a turbine would be in the event of an unplanned fault. Staff would travel in pick-ups or other light-duty trucks. Most

servicing and repair would be performed within the nacelle, without using a crane to remove the turbine from the tower. Rarely, the use of a crane or equipment transport vehicles may be necessary for cleaning, repairing, adjusting, or replacing the rotors or other components of the turbine.

Monitoring the operations of the SWEF would be conducted from computers located in the base of each turbine tower and from the O&M building using telecommunication links and computer-based monitoring.

Over time it would be necessary to clean or repaint the blades and towers, and periodically exchange lubricants and hydraulic fluids in the mechanisms of the turbines. All lubricants and hydraulic fluids would be stored, used, and disposed of in accordance with applicable laws and regulations. Any necessary repainting would be performed by licensed contractors in compliance with applicable laws and regulations.

The turbine gearboxes would be sealed to prevent lubricant leakage. The gearbox lubricant would be sampled periodically and tested to confirm that it retains adequate lubricating properties. When the lubricants have degraded to the point where they no longer contain the needed lubricating properties, the gearbox would be drained and new lubricant would be added. Transformers contain oil for heat dissipation, and are sealed and contain no moving parts. The transformer oil would be subject to periodic inspection but should not need replacement. Construction equipment and O&M vehicles would be properly maintained at all times to prevent leaks of motor oils, hydraulic fluids, and fuels. During operations, O&M vehicles would be serviced and fueled at the O&M building or at an off-site location. A Spill Prevention, Containment, and Countermeasures Plan would be prepared and include information regarding training, equipment inspection and maintenance, and refueling for construction vehicles, with an emphasis on preventing spills.

The proposed action would produce nonhazardous waste during O&M activities, which may include rags, broken or used metal machine and/or electrical parts, empty containers, typical refuse generated by employees in the field and office, and miscellaneous solid wastes. This waste would be properly disposed of at an approved landfill accepting Class I Municipal Solid Waste and/or Class III Industrial Waste within Clark County, Nevada.

Reclamation

Reclamation refers to the restoration of lands used temporarily during a construction activity (such as laydown areas) to their approximate condition prior to construction. After construction is complete, temporary work areas, trenches, and tower pads would be graded to the approximate original topographic contours, and the areas would be re-vegetated with a BLM-approved mixture of native grass, forbs, and shrub species. Reclamation would include implementation of all applicable BLM BMPs (Appendix B of Tetra Tech 2012).

WAPA's Interconnection Switching Station

WAPA proposes to construct, own, and operate a new switching station to interconnect the proposed project with WAPA's transmission system. It is anticipated that the switching station would become a permanent part of the WAPA transmission system. The proposed switching station would be located just west of WAPA's existing Davis-Mead 230-kV transmission line, approximately 7.5 miles east of the town of Searchlight, north of Cottonwood Cove Road (Figure 1). Access to the proposed switching station would be along the existing Davis-Mead transmission line road, entering from Cottonwood Cove Road. The switching station is located in the Paiute-Eldorado Critical Habitat Unit (PECHU) for Mojave desert tortoise. The transmission line road would require improvement for approximately 0.5 mile to be suitable for traffic to the site by construction vehicles, equipment delivery, and WAPA construction and maintenance personnel.

Facilities would include a control building, microwave tower, take-off structures and other steel support structures, buswork, and electrical and control equipment for switching, protection, metering, safety, and O&M purposes. The switching station would occupy approximately 3.5 acres, with an additional 2.5 acres outside the security fence required for site preparation, drainage, and road access. An 8-foot-tall chain-link fence topped with razor wire would provide security for the switching station. Adequate space would be provided inside the fence to maneuver construction and maintenance vehicles. Additionally, the facility would be sized to accommodate additional bays for future interconnections.

The terrain at the proposed location of the switching station features rolling hills and dry washes. Substantial civil design and earth moving would be required to level the station yard and provide for site drainage and roads, including excavation, grading, and other site improvements to accommodate the required electrical equipment. Construction would be performed by a WAPA-managed contractor in accordance with WAPA's standard environmental protection provisions (Appendix C of Tetra Tech 2012) and safety standards. A representative from WAPA would be present at all times while a contractor was working on site.

Three power circuit breakers would be installed at the switching station to facilitate two interconnections for the existing transmission line and one for the proposed wind energy facility line. These breakers would be used to automatically interrupt power flow in the event of an electrical fault. Gas breakers planned for the proposed switching station would be insulated by special non-conducting gas (sulfur hexafluoride [SF_6]). During normal operation of the new switching station, authorized WAPA personnel would conduct periodic inspections and service equipment as needed. WAPA would monitor and manage the use, storage, and replacement of SF_6 to minimize any releases to the environment. Gas used in switching station circuit breakers is contained in sealed units that are factory-certified to not leak; equipment would be monitored nonetheless. Seven disconnect switches used to mechanically disconnect or isolate equipment would be installed. A 3-inch deep layer of gravel surfacing selected for its insulating properties

would be placed on the ground within the substation to protect O&M personnel from electrical danger in the event of electrical faults.

Power would move within the substation and between breakers and other equipment on bus tubing (smooth aluminum pipe less than 6 inches in diameter). Bus tubing would be elevated by supports called bus supports. Buswork within the proposed switching station would route the wind energy facility's output to the Davis-Mead transmission line. The buswork would be approximately 30 feet high.

Electric/electronic controls and monitoring equipment for the power system would be housed in a building approximately 30 feet by 60 feet within the switching station. The control building would be environmentally controlled to provide a suitable environment for the equipment housed there. Station service power would be supplied by a tap on an adjacent local utility distribution line and/or from a 230-kV power voltage transformer within the switching station. A new distribution line on single wood-pole (monopoles) structures about 1,000 feet long would be constructed between the switching station to the existing distribution line. The primary station service source would be determined during the design phase for the switching station.

WAPA's Transmission Interconnection

WAPA proposes to install two new transmission line structures to tie in the new switching station with the Davis-Mead 230-kV transmission line. Each turning structure would be a steel monopole structure, self-supporting with no down-guys. These structures would provide for turning the line into the station at angles of 90 degrees Fahrenheit (°F) or more to line up and connect with the take-off structures within the proposed switching station. It is envisioned that the new structures would be located within the existing Davis-Mead transmission line ROW in the span between the two existing structures east of the proposed switching station.

A temporary line might be built in order to keep the Davis-Mead transmission line operational while the bulk of the switching station construction is being completed. When the new switching station is complete and ready for energization, the existing Davis-Mead transmission line conductors in the span east of the station would be cut and attached to the new turning structures. New conductors would be installed from the new turning structures to the steel take-off structures within the switching station.

Conservation Measures

BLM and the Applicant have proposed the following measures to minimize negative project impacts to desert tortoises. The project is designed to minimize ground disturbance wherever practicable.

1. *Waste Management Plan.* The Applicant will prepare a Waste Management Plan, in accordance with applicable laws and regulations, which will describe the storage,

transportation, and handling of hazardous materials and wastes; will emphasize the recycling of wastes, where possible; and will identify the specific landfills that will receive wastes that cannot be recycled.

2. *Weed Management Plan.* An Invasive Plant Management Plan will be developed for construction and O&M activities and include results of noxious weed inventories, identification of problem areas, preventative measures, treatment methods, agency-specific requirements, monitoring requirements, and herbicide treatment protocol.

3. *Site Rehabilitation and Facility Decommissioning Plan.* The applicant will develop a Reclamation, Restoration, and Revegetation Plan in consultation with appropriate agencies prior to adoption of the Final Environmental Impact Statement that will guide restoration and revegetation activities for all disturbed lands associated with construction of the project and the eventual termination and decommissioning of the project.

4. *Water Usage.* If water is used for fugitive dust control, it will not be allowed to pool on access roads or other project areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.

5. *Minimize Overhead Collection Line.* Collection lines will be buried to the greatest extent feasible to reduce the opportunity for perches for raptors and ravens.

6. *Reduce Night Lighting.* Night lighting will be reduced in all natural areas to avoid unnecessary visual disturbance to wildlife using directed lighting, shielding methods, and/or reduced lumen intensity except as required by regulatory agencies such as the Federal Aviation Administration.

7. *Clean up.* SWEF will ensure that all unused material and equipment will be removed upon completion of construction activities or maintenance activities conducted. Upon completion, all construction equipment and refuse, including, but not limited to wrapping material, cables, cords, wire, boxes, rope, broken equipment parts, twine, strapping, buckets, metal or plastic containers will be removed from the site and disposed of properly. Any unused or leftover hazardous products will be properly disposed of offsite.

8. *Desert Tortoise Fencing.* Desert tortoise fencing will be installed around permanent facility structures including the O&M building and WAPA's proposed switching station.

9. *Desert Tortoise Measures.* The applicant or a qualified consultant will provide for the following to reduce impacts to desert tortoise:

a. A compliance manager will be designated and will oversee compliance monitoring activities and coordination with authorizing agency(s). Compliance activities will at a minimum include conducting preconstruction surveys, assuring proper handling of desert tortoise, adequate staffing of biological monitors during construction, and upholding all authorized conditions. The compliance manager will oversee all compliance documentation including daily observation reports, non-compliance and corrective action reports, and final reporting to any authorized agency upon project completion.

b. Construction monitoring will employ a designated compliance inspection contractor and authorized desert tortoise biologist(s) during the construction phase. A qualified biologist is defined as a person with appropriate education, training, and experience to conduct tortoise surveys, monitor project activities, provide worker education programs, and supervise or perform other implementing actions. An authorized desert tortoise biologist is defined as a wildlife biologist who has been approved to handle desert tortoises by the Service. A minimum of one monitor per crew is needed for construction crews using heavy equipment (e.g., backhoes, large trucks). One roving monitor will monitor multiple times per day in other active construction zones where heavy equipment is not in use.

c. All work area boundaries associated with temporary and permanent disturbances will be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. All workers will strictly limit activities and vehicles to the designated work areas.

d. Crushing or removal of perennial vegetation in work areas will be avoided to the maximum extent practicable.

e. Trash and food items will be contained in closed lid (raven- and coyote-proof) containers. Trash will be removed regularly (at least once a week) to reduce the attractiveness to the site to opportunistic tortoise predators such as common ravens and coyotes and to reduce the possibility of animals ingesting or becoming entangled in foreign matter.

f. Pets will not be allowed in working areas unless restrained in a kennel.

g. Where possible, motor vehicles will be limited to maintained roads and designated routes.

h. Desert tortoise caution signs will be installed on turbine access roads.

i. Desert tortoise clearance surveys at the project site must consist of at least two consecutive surveys of the site. Surveys shall involve walking transects less than

or equal to 15-feet (5-meter) wide under typical conditions. In areas of dense vegetation or when conditions limit the ability of the surveyors to locate desert tortoises, transects should be reduced in width accordingly. Clearance surveys should be conducted when desert tortoises are most active (April through May or September through October). If desert tortoises are observed during the second pass, the Service and the appropriate State wildlife agency may require a third survey.

j. All methods used for handling desert tortoises during the clearance surveys must be in accordance with the Desert Tortoise Field Manual (Service 2009). Anyone that handles desert tortoises during clearance activities must have the appropriate authorizations from the Service and the State.

k. During the clearance surveys, desert tortoises in burrows may be removed through tapping or careful excavation. Multiple visits may be necessary if desert tortoises are inaccessible in deep caves or burrows. During all handling procedures, desert tortoises shall be treated in a manner to ensure that they do not overheat or exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises shall be kept shaded at all times until it is safe to release them. Ambient air temperature shall be measured in the shade, protected from wind, at a height of 2 inches (5 centimeters) above the ground surface. All clearance activities (capture, transport, release, etc.) shall occur when ambient temperatures are below 95°F (35°C) and not anticipated to rise above 95°F (35°C) before handling and processing desert tortoises are completed.

l. For desert tortoises that need to be relocated out of harm's way, the tortoise should be placed out of the path of project activity as per the instructions and guidance from the authorized desert tortoise biologist.

m. The area cleared and number of desert tortoises located within that area must be reported to the local Service and the appropriate State wildlife agency. The report should be made in writing, either by mail or email. Notification should be received within one week.

n. For activities conducted between March 15 and November 1 in desert tortoise habitat, all activities in which encounters with tortoises might occur will be monitored by an authorized desert tortoise biologist. The biologist will be informed of tortoises relocated during preconstruction surveys so that he or she could watch for the relocated tortoises in case they attempted to return to the construction site. The authorized desert tortoise biologist will watch for tortoises wandering into the construction areas, check under vehicles, examine excavations and other potential pitfalls for entrapped animals, examine exclusion fencing, and

conduct other activities to ensure that death or injuries of tortoises were minimized.

o. For open trenches, earthen escape ramps will be maintained at intervals of no greater than 0.25 mile. A biological monitor will inspect all trenches, auger holes, or other excavations a minimum of twice per day, and also immediately prior to back-filling. Any wildlife species located will be safely removed and relocated out of harm's way, using a suitable tool such as a pool net when applicable. For safety reasons, biological monitors will under no circumstance enter open excavations.

p. No overnight hazards to desert tortoises (e.g., auger holes, pits, or other steep-sided depressions) will be left unfenced or uncovered; such hazards will be eliminated each day prior to the work crew and biologist leaving the site. Plywood board will be used to cover open hazards. All excavations will be inspected for trapped desert tortoises at the beginning, middle, and end of the work day. Should a tortoise become entrapped, the authorized desert tortoise biologist will remove it immediately.

q. If blasting is required in desert tortoise habitat, a biological monitor will be assigned to each blasting crew or area in which blasting will occur. Prior to any blast, a 200-foot area around the blast site will be surveyed for desert tortoises. Aboveground tortoises will be relocated at least 500 feet from the blast site. Tortoises in burrows within 50 feet of the blast site will be relocated at least 75 feet away from the blast site to an unoccupied existing or artificial burrow. Burrows located between 50 and 150 feet away from the blast site will be flagged and stuffed with newspaper prior to the blast. The newspaper will be removed immediately after the blast and burrows assessed for damage.

r. Routine inspection and maintenance of transmission lines will be limited to the desert tortoise inactive periods of November through February and June through August. All access roads with re-established native vegetation that are used for scheduled, routine maintenance activities will be cleared by a tortoise monitor ahead of any vehicular movement. Should unscheduled, emergency maintenance become necessary, a tortoise monitor will clear the route ahead of vehicular movement.

s. Any incident occurring during project activities that was considered by the biological monitor to be in non-compliance with the mitigation plan will be documented immediately by the biological monitor. The compliance manager will ensure that appropriate corrective action was taken. Corrective actions will be documented by the monitor. The following incidents will require immediate cessation of the construction activities causing the incident, including 1) imminent

threat of injury or death to a desert tortoise; 2) unauthorized handling of a desert tortoise, regardless of intent; 3) operation of construction equipment or vehicles outside a project area cleared of desert tortoise, except on designated roads; and 4) conducting any construction activity without a biological monitor where one is required. If the monitor and compliance inspection manager do not agree, the BLM's compliance officer will be contacted for resolution. All parties would refer the resolution to the BLM's authorized officer.

t. *Worker Environmental Awareness Program.* A Worker Environmental Awareness Program (WEAP) will be prepared. Construction crews and contractors associated with the SWEF or the WAPA switching yard or power line will be required to participate in WEAP training prior to starting work on the project. This instruction will include specific desert tortoise training on distribution, general behavior and ecology, identification, protection measures, reporting requirements, and protections afforded by State and Federal endangered species acts.

u. Parked vehicles will be inspected prior to being moved. If a tortoise is observed beneath a vehicle, the authorized desert tortoise biologist will be contacted to move the animal from harm's way, or the vehicle will not be moved until the desert tortoise left of its own accord. The authorized desert tortoise biologist will be responsible for taking appropriate measures to ensure that any desert tortoise moved in this manner is not exposed to temperature extremes that could be harmful to the animal.

v. Should any desert tortoise be injured or killed, all activities will be halted, and the compliance inspection manager and/or authorized desert tortoise biologist immediately contacted. The compliance inspection manager and/or authorized desert tortoise biologist will be responsible for reporting the incident to the authorizing agencies.

w. A report to the Service will be produced reporting all tortoises seen, injured, killed, excavated, or handled. GPS locations of live tortoises will be reported.

x. The applicant will implement a Raven Management Program that will consist of: 1) an annual survey to identify raven nests on towers and any tortoise remains at tower locations; this information will be relayed to BLM so that the ravens and/or their nests in these towers would be targeted for removal, 2) SWEF making an annual or one time contribution to an overall raven reduction program in the Nevada desert, with an emphasis on raven removal in the vicinity of this project.

y. BLM will hold a preconstruction meeting with Duke Energy and the compliance inspection contractor (CIC) to discuss implementation of the terms and conditions of the biological opinion.

In addition, BLM proposes the additional measures described in detail below that include 1) a transportation plan to reduce potential mortality from vehicles during construction, restoration, and O&M and 2) the payment of remuneration fees to compensate for the loss of desert tortoise habitat from the SWEF (Appendix A).

10. *Transportation Plan.* The transportation plan will be implemented during construction, O&M, and reclamation. The year will be divided into three periods based on Mojave desert tortoise activity levels as follows:

    - High activity period – April 1 to May 31 and September 1 to October 31
    - Moderate activity period – March 1 to March 31 and June 1 to August 31
    - Low activity period – November 1 to February 28 or 29

    During the high activity periods, a speed limit of 15 miles per hour will be maintained on all roads related to access for construction, post-construction (i.e., operation), and restoration. One biological monitor will travel in front of each piece of construction, post-construction, and restoration equipment and other construction-related vehicles entering and exiting the construction areas. If possible, construction, post-construction, and restoration equipment will be grouped while being escorted by a biological monitor entering and exiting the construction areas. Vans, busses, or carpooling will be employed to reduce the number of worker-related vehicles within the construction, post-construction, and restoration areas. These vehicles will be grouped and escorted by a biological monitor entering and exiting the construction, post-construction, and restoration area.

    During the moderate activity period of March 1 to March 31, low activity measures (see below) will be in effect until the temperature exceeds 68°F for three consecutive days or a tortoise is observed. If a tortoise is observed or the temperature exceeds 68°F for three consecutive days, minimization measures for the high activity period will take effect unless the weather forecast for the next day is for the temperature to drop below 68°F.

    During the moderate activity period of June 1 to August 31, high activity measures will be in effect until the temperature exceeds 95°F. After the temperature exceeds 95°F, minimization measures for the low activity period will take effect.

    During the low activity periods, a speed limit of 20 miles per hour will be maintained on all roads related to access for construction, post-construction, and restoration. Construction, post-construction, and restoration equipment entering and exiting a construction site will not need to be escorted by a biological monitor. Vans, busses, or carpooling will be optional to reduce the number of worker-related vehicles within the construction, post-construction, and restoration areas. Vans, busses, or carpooling will

still be recommended to reduce the number of worker-related vehicles in construction areas.

11. *Remuneration Fees.* BLM will ensure payment by the project proponent of remuneration fees (see Tetra Tech 2012 for more details).

Remuneration fees would be used for management actions expected to promote recovery of the desert tortoise over time. Actions may involve habitat acquisition, population or habitat enhancement, increasing knowledge of the species' biological requirements, reducing loss of individual animals, documenting the species status and trend, and preserving distinct population attributes (Hastey et al. 1991, BLM 2010).

DESCRIPTION OF THE ACTION AREA

The action area is defined as all areas to be affected directly or indirectly by the Federal action, including interrelated and interdependent actions, and not merely the immediate area involved in the action (50 CFR § 402.02). Subsequent analyses of the environmental baseline, effects of the action, cumulative effects, and levels of incidental take are based upon the action area as determined by the Service. Regulations implementing the Act define the environmental baseline as the past and present effects of all Federal, State, or private actions and other human activities in the action area (50 CFR § 402.02). Also included in the environmental baseline are the anticipated effects of all proposed Federal projects in the action area that have undergone section 7 consultation, and the effects of State and private actions that are contemporaneous with the consultation in progress.

The action area for the SWEF project includes the turbine pads, new and upgraded roads and crane pads, O&M facility, the equipment storage and construction laydown areas, the overhead transmission line ROW, substations, batch plant, meteorological towers, and WAPA's switching station, which combined account for approximately 388.5 acres of surface disturbance (Figure 2). To address adverse effects to desert tortoises whose home ranges overlap all project features, the action area also includes a 0.5-mile buffer surrounding all project features and isolated islands of habitat surrounded by features that may not otherwise be within the 0.5-mile buffer, which accounts for approximately 21,750 acres (Figure 2).

ANALYTICAL FRAMEWORK FOR THE JEOPARDY DETERMINATION

Jeopardy Determination

Section 7(a)(2) of the Act requires that Federal agencies ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of listed species. "Jeopardize the continued existence of" means to engage in an action that reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and

recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species (50 CFR § 402.02).

The jeopardy analysis in this biological opinion considers the effects of the proposed Federal action, and any cumulative effects, on the rangewide survival and recovery of the desert tortoise. It relies on four components: 1) the Status of the Species, which describes the rangewide condition of the desert tortoise, the factors responsible for that condition, and its survival and recovery needs; 2) the Environmental Baseline, which analyzes the condition of the desert tortoise in the action area, the factors responsible for that condition, and the relationship of the action area to the survival and recovery of the desert tortoise; 3) the Effects of the Action, which determines the direct and indirect impacts of the proposed Federal action and the effects of any interrelated or interdependent activities on the desert tortoise; and 4) the Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on the desert tortoise.

Adverse Modification Determination

Section 7(a)(2) of the Act also requires that Federal agencies ensure that any action they authorize, fund, or carry out does not result in the destruction or adverse modification of designated critical habitat. Our analysis of effects to desert tortoise designated critical habitat follows Service-issued guidance: *Application of the "Destruction or Adverse Modification" Standard under section 7(a)(2) of the Endangered Species Act* issued on December 9 2004. The guidance addresses the 9th Circuit Court of Appeals ruling in *Gifford Pinchot Task Force v U.S. Fish and Wildlife Service*, No. 03-35279 (August 6, 2004) and states that an evaluation of effects to designated critical habitat should consider the concepts embodied in the sections 3 (definitions of "critical habitat" and "conservation"), 4 (the procedures for delineating and adjusting areas included in a designation) and 7 (the substantive standard in paragraph (a)(2) and the procedures in paragraph (b)) and focus on the function and conservation role of both the affected critical habitat unit (CHU) as well as the entire designation.

The critical habitat within the action area includes undisturbed desert tortoise habitat, as well as degraded areas as a result of previous projects and activities. When critical habitat was designated in 1994, disturbances to desert tortoises and their habitat in the action area included off-road vehicle (ORV) activity, mining, transmission lines, and roads (Service 1994). Desert tortoise habitat conditions and disturbances in the action area are similar to those identified in 1994 and also include drought and fire (Service 2011). Desert tortoise critical habitat is composed of specific geographic areas that contain the primary constituent elements (PCEs) of critical habitat, consisting of the biological and physical attributes essential to the species' conservation within those areas. Undisturbed designated critical habitat in the action area retains the PCEs of critical habitat as discussed below.

PCE 1: Sufficient space to support viable populations within each of the six recovery units and to provide for movement, dispersal, and gene flow. Urban and agricultural development, concentrated use by ORVs, and other activities of this nature completely remove habitat. Although we are aware of local areas within the boundaries of critical habitat that have been heavily disturbed by the unauthorized use of such activities, we do not know of any areas that have been disturbed to the intensity and extent that this PCE has been compromised. To date, the largest losses of critical habitat are likely the result of the widening of existing freeways. Despite these losses of critical habitat, which occur in a linear manner, the CHUs continue to support sufficient space to support viable populations within each of the five recovery units.

In some cases, major roads likely disrupt the movement, dispersal, and gene flow of desert tortoises. Highways 58 and 395 in the Fremont-Kramer CHU; U.S Highway 95 in the PECHU; and Fort Irwin Road in the Superior-Cronese CHU are examples of large and heavily traveled roads that likely disrupt movement, dispersal, and gene flow. Roads that have been fenced and provided with underpasses may alleviate this fragmentation to some degree; however, such facilities have not been in place for sufficient time to determine whether they would eliminate this effect.

The threats of invasive plant species described in the revised recovery plan generally do not result in the removal of this PCE because they do not convert habitat into impervious surfaces, such as urban development would.

PCE 2: Sufficient quality and quantity of forage species and the proper soil conditions to provide for the growth of these species. This PCE addresses the ability of critical habitat to provide adequate nutrition to desert tortoises. As described in the revised recovery plan and 5-year review, grazing, historical fire, invasive plants, altered hydrology, drought, wildfire potential, fugitive dust, and climate change/temperature extremes contribute to the stress of "nutritional compromise." Paved and unpaved roads through critical habitat of the desert tortoise provide avenues by which invasive native species disperse; these legal routes also provide the means by which unauthorized use occurs over large areas of critical habitat. Nitrogen deposition from atmospheric pollution likely occurs throughout the entire CHUs and exacerbates the effects of the disturbance of substrates. Because paved and unpaved roads are so widespread through critical habitat, we expect that this threat has, to some degree, compromised the conservation value and function of critical habitat throughout the range of the desert tortoise.

PCE 3: Suitable substrates for burrowing, nesting, and overwintering. Surface disturbance, motor vehicles traveling off route, use of off-highway vehicle management areas, off-highway vehicle events, unpaved roads, grazing, historical fire, wildfire potential, altered hydrology, and climate change leading to shifts in habitat composition and location, storms, and flooding can alter substrates to the extent that they are no longer suitable for burrowing, nesting, and overwintering; erosion caused by these activities can alter washes to the extent that desert tortoise burrows placed along the edge of a wash, which is a preferred location for burrows, could be destroyed. We expect that the area within critical habitat that is affected by ORV use to

the extent that substrates are no longer suitable is relatively small in relation to the area that desert tortoises have available for burrowing, nesting, and overwintering; consequently, we expect that ORV use does not have a substantial effect on this PCE.

Most livestock allotments have been eliminated from within the boundaries of critical habitat. Additionally, we expect that livestock would compact substrates to the extent that they would become unsuitable for burrowing, nesting, and overwintering only in areas of concentrated use, such as around watering areas and corrals. Because livestock grazing occurs over a relatively small portion of critical habitat and the substrates in most areas within livestock allotments would not be substantially affected, we expect that suitable substrates for burrowing, nesting, and overwintering remain throughout most of the CHUs.

PCE 4: Burrows, caliche caves, and other shelter sites. We expect that human-caused effects to burrows, caliche caves, and other shelter sites likely occur at a similar rate as effects to substrates for burrowing, nesting, and overwintering for the same general reasons. Consequently, we expect that sufficient burrows, caliche caves, and other shelter sites remain throughout most of the CHUs.

PCE 5: Sufficient vegetation for shelter from temperature extremes and predators. In general, sufficient vegetation for shelter from temperature extremes and predators remains throughout critical habitat. In areas where large fires have occurred in critical habitat, many of the shrubs that provide shelter from temperature extremes and predators have been destroyed; in such areas, cover sites may be a limiting factor. The proliferation of invasive plants poses a threat to shrub cover throughout critical habitat as the potential for larger wildfires increases.

In 2005, wildfires in Nevada, Utah, and Arizona burned extensive areas of critical habitat. The revised recovery plan notes that the fires caused statistically significant losses of perennial plant cover, although patches of unburned shrubs remained. Given the patchiness with which the PCEs of critical habitat are distributed across the CHUs and the varying intensity of the wildfires, we cannot quantify precisely the extent to which these fires disrupted the function and value of the critical habitat.

PCE 6: Habitat protected from disturbance and human-caused mortality. In general, the Federal agencies that manage lands within the boundaries of critical habitat have adopted land management plans that include implementation of some or all of the recommendations contained in the original recovery plan for the desert tortoise. To at least some degree, the adoption of these plans has resulted in the implementation of management actions that are likely to reduce the disturbance and human-caused mortality of desert tortoises. For example, these plans resulted in the designation of open routes of travel and the legal closure (and, in some cases, physical closure) of unauthorized routes. Numerous livestock allotments have been relinquished by the permittees and retired by BLM and the National Park Service. As a result of planning efforts, BLM's record of decision included direction to withdraw areas of critical habitat from mineral entry. As a result of actions on the part of various agencies, many miles of highways and

other paved roads have been fenced to prevent desert tortoises from wandering into traffic and being killed. The Service and other agencies of the Desert Managers Group in California are implementing a plan to remove common ravens that prey on desert tortoises and to undertake other actions that would reduce subsidies (i.e., food, water, sites for nesting, roosting, and perching, etc.) that facilitate their abundance in the California desert.

Despite the implementation of these actions, disturbance and human-caused mortality continue to occur in many areas of critical habitat (which overlap the desert wildlife management areas to a large degree and are the management units for which most data are collected) to the extent that the conservation value and function of critical habitat is, to some degree, compromised. For example, many highways and other paved roads in California remain unfenced. Twelve desert tortoises were reported to be killed on paved roads from within Mojave National Preserve in 2011; we fully expect that desert tortoises are being killed at similar rates on many other roads, although these occurrences are not discovered and reported as diligently as by the National Park Service.

Unauthorized ORV use continues to disturb habitat and result in cleared areas within the boundaries of critical habitat in California (e.g., Coolgardie Mesa in the Western Mojave Recovery Unit); although we have not documented the death of desert tortoises as a result of this activity, it likely occurs. Additionally, the habitat disturbance caused by this illegal activity exacerbates the spread of invasive plants, which displace native plants that are important forage for the desert tortoise, thereby increasing the physiological stress faced by desert tortoises.

STATUS OF THE SPECIES AND CRITICAL HABITAT RANGEWIDE

The rangewide status of the desert tortoise and its critical habitat consists of information on its listing history, species account, recovery plan, recovery and CHUs, distribution, reproduction, and numbers. This information is dated February 9, 2012, and provided on the Service's website at: http://www.fws.gov/nevada/desert_tortoise/dt_life.html. If unavailable on this website, contact the Nevada Fish and Wildlife Office in Las Vegas at (702) 515-5230, and provide File No. 84320-2012-F-0211 along with the date of February 9, 2012. Additional information is provided in our 5-year review (Service 2010a) and revised recovery plan for the Mojave desert tortoise (Service 2011).

ENVIRONMENTAL BASELINE

Status of the Desert Tortoise in the Action Area

The project is located on the boundary between the Eastern Mojave and Colorado Desert Recovery Units for desert tortoise. The vegetation present in the action area is characteristic of the Mojave Desert Scrub biome and is comprised of creosote bush (*Larrea tridentata)*, Joshua tree (*Yucca brevifolia*), Mojave yucca (*Yucca schidigera*), white bursage (*Ambrosia dumosa*), and several species of cholla cactus (*Opuntia* spp.). A number of other shrub and annual plant

species are generally also present. The elevation ranges from 2,240 to 4,327 feet above mean sea level. The northern portion of the project area is characterized by a higher variation in both topography and vegetation including Joshua tree woodlands when compared to the WAPA portion, which is flat, primarily in the valley floor and contains a more uniform, creosote bush-dominated habitat. The action area is situated along a bajada (alluvial fan) which extends north, south, and east from the town of Searchlight. According to GAP analysis, six GAP vegetative communities exist within the project area: Sonoran-Mojave Creosote bush-White Bursage Desert Scrub, Mojave Mid-Elevation Mixed Desert Scrub, North American Warm Desert Wash, North American Warm Desert Bedrock Cliff and Outcrop, Sonora-Mojave Mixed Salt Desert Scrub, and Intermountain Basins Semi-Desert Shrub Steppe (see Figure 2 in Tetra Tech 2012). Soil largely consists of sandy, stony loam with abundant rock/boulder deposition and dry washes exist throughout the project area. The weather at the project area is characterized by extreme temperatures and dry conditions; the area receives approximately 7 inches of precipitation annually.

Desert tortoise surveys were conducted in accordance with Service protocol (Service 2010) by qualified field biologists from April 4 to May 16, 2011. This survey time encompassed the desert tortoise active season of April to May; a timeframe selected to minimize the probability of the temperature rising above 40 °C which serves as a temperature threshold for desert tortoise activity (Zimmerman et al. 1994; Freilich et al. 2000; Nussear et al. 2007). All survey methods were reviewed and agreed to by BLM and the Service prior to conducting surveys.

A 200-foot buffer was placed around all approximately mapped final locations of project features (survey boundary in Figure 3), and desert tortoise surveys were conducted within this buffer. This survey area is a smaller part of the Action Area (Figures 2 and 3). In some areas, intersecting facilities created isolated islands of habitat that were not included in a survey corridor. Per discussions with BLM, these islands were included in the survey area in order to best assess desert tortoise density and assess project impacts. Therefore, the survey area totaled 3,612 acres (600-foot exterior belt transect in Figure 3). The survey area is within the known range of the desert tortoise (Service 2010b). Although the 3,612 acre (14.6 km^2) survey area is above the 4.5 km^2 threshold needed for probabilistic sampling (Table 2 of Service 2010b), the linear features of the project required 100 percent coverage methods for the pre-construction survey. Therefore, 100 percent coverage surveys were completed throughout the entirety of the described survey area.

A total of 122 live desert tortoises were located within the survey area. Ninety-five occurred within the main survey boundary, 19 occurred along the exterior belt transects, and 8 occurred incidentally outside of the survey area (Figure 3). However, the Service takes into account only adult tortoises above 160 millimeters midline carapace length for abundance estimates (Service 2010b). Of the 122 live tortoise detected, 60 met this requirement. Using the "number of tortoises observed within the action area equation" (Table 3 of Service 2010b) and average monthly precipitation from the winter (October through March) preceding the surveys averaged

37 millimeters (1.463 inches) per month, 150 tortoises are estimated to occur within the 3,612 acre survey area.

Other observed and documented desert tortoise sign included 240 pieces of scat, 95 carcasses, 750 tortoise burrows, and 22 pieces of miscellaneous sign (1 courtship ring, 2 egg shell fragments, 19 bone/scute fragments; Table 1).

Table 1. Summary of Live Desert Tortoise and Desert Tortoise Sign Detected within the Action Area

Area Surveyed		
Detection Type	Action Area	Exterior Belt Transect
Live Desert Tortoise	95	19
Burrows	650	100
Carcasses	74	21
Scat	220	20

Based on the 150 tortoises estimated from the 2011 surveys, an approximate desert tortoise density for the proposed action was calculated using the tortoise density calculator (Service 2010b). As the survey methods covered 100 percent of the survey area, the total area used for density calculations was 3,612 acres (14.6 km^2). The tortoise density, then, was calculated to be approximately 0.04 tortoises per acre or 10.2 tortoises per km^2. Because similar quality habitat occurs in the area surrounding the survey area, we assume a similar density of tortoises is present throughout the Action Area.

The majority of tortoises and sign were observed in the lower elevation, creosote scrub flats of the northern and southern survey area (Figure 3 and 4). These sections consist of substrate suitable for burrow construction and numerous washes, as well as abundant preferred food sources of the desert tortoise (e.g., globe mallow and desert marigold). Such characteristics of suitable substrate and quality food source provide higher quality habitat thus increasing the potential for encountering tortoise in the lower elevation flats represented in the northern and southern sections.

The higher elevation areas within the action area are much rockier, with steeper slopes and less abundant food sources. Although still considered suitable desert tortoise habitat, these characteristics are less favorable to desert tortoise thus reducing the potential for desert tortoise encounters in those portions of the project containing this type of habitat. Although survey results demonstrate desert tortoise are more widely distributed in the lower elevation flats of the project area, a large amount of sign was observed and documented in these higher elevation areas (Figure 4).

We recognize that the survey data used for these estimates represents a single point in time and the number of individuals in these areas can change in response to environmental conditions. Efforts to accurately estimate the number of desert tortoises that may be encountered on linear projects such as the SWEF are difficult. Variables that affect the number of tortoises occurring

or entering the action area include habitat quality, season, temperature, and precipitation. All desert tortoises may not have been detected during the survey; some desert tortoises may die or may leave the project area before construction commences; other unaccounted desert tortoises may move onto the site before construction begins; and undetected hatchling desert tortoises may emerge from rodent burrows or nests on, or adjacent to the ROW. However, the information above provides the best available data to establish a baseline for analysis.

Status of the Critical Habitat in the Action Area

The vegetation present in critical habitat within the undisturbed action area is characteristic of the Mojave Desert Scrub biome and is comprised of creosote bush (*Larrea tridentata)*, Joshua tree (*Yucca brevifolia*), Mojave yucca (*Yucca schidigera*), white bursage (*Ambrosia dumosa*), and several species of cholla cactus (*Opuntia* spp.). A number of other shrub and annual plant species are generally also present. The elevation ranges from 2,240 to 4,327 feet above mean sea level. A small amount of the proposed project occurs in the PECHU (Figure 5), which totals 516,655 acres. As a result of the proposed project, 7 acres of critical habitat, where the WAPA transmission line would be constructed, would be disturbed. This accounts for a statistically insignificant amount of habitat disturbance in the PECHU.

Factors Affecting the Species and its Critical Habitat in the Action Area

Currently, there are three sites in the testing phase for wind energy development on BLM-managed lands within a 20 mile radius of the SWEF. One other site on BLM-managed lands approximately 35 miles northwest of the project is pending authorization for development of a wind energy facility. Two solar energy facilities on privately-owned lands occur approximately 20 miles north of the SWEF. Additionally, several competitive ORV races occur in the Laughlin and Searchlight areas. The Hare Scrambles Championship Team Race is a 37-mile course with a start and finish point located approximately 10 miles west of Laughlin off of SR 163. DNF Racing's SNORE-Laughlin Rage at the River is another competitive ORV race held in the Laughlin area over an 11.8-mile race course. SCORE's Laughlin desert challenge truck and buggy race is a 3-day event held every January on an approximately 6.5-mile designated loop course near Laughlin. The Searchlight Grand Prix is a motorized event held every year during a weekend in November on an approximately 10-mile designated loop that includes both private streets in Searchlight as well as BLM-designated routes through desert tortoise habitat.

Section 7 Consultations Affecting the Proposed Project Area

The following consultations address areas that overlap the action area addressed in this biological opinion.

On November 25, 1997, the Service issued a Programmatic Biological Opinion (PBO) (File No. 1-5-97-F-251) to BLM for implementation of various land management programs within the Las Vegas District planning area excluding desert tortoise critical habitat and ACECs, and outside the

Las Vegas Valley. Activities proposed that may affect the desert tortoise in the action area include issuance of ROW, Recreation and Public Purposes leases, mineral material sales and leases, and mining plans of operation. The PBO is limited to activities which may affect up to 240 acres per project, and a cumulative total of 10,000 acres excluding land exchanges and sales. Only land disposals by sale or exchange in Clark County (but outside the Las Vegas Valley) are covered under the consultation up to a cumulative total of 14,637 acres. Thus, a maximum total of 24,637 acres of desert tortoise habitat may be affected by the proposed programmatic activities.

On June 18, 1998, the Service issued a PBO (File No. 1-5-98-F-053) to BLM for implementation of various land management programs within desert tortoise habitat and the Las Vegas planning area, including desert tortoise critical habitat and ACECs. Activities that were proposed that may affect the desert tortoise in the action area include recreation; designation of utility corridors and mineral material extraction areas and designation of the Piute-Eldorado ACEC.

Habitat Conservation Plans

Since the Mojave population of the desert tortoise was first listed under the Act in 1989, three regional-level habitat conservation plans (HCPs) have been implemented for development of desert tortoise habitat in Clark County, Nevada. Approximately 89 percent of Clark County consisted of public lands administered by the Federal government, thereby providing little opportunity for mitigation for the loss of desert tortoise habitat under an HCP on non-Federal lands. Alternatively, funds are collected under HCPs and spent to implement conservation and recovery actions on Federal lands as mitigation for impacts that occur on non-Federal lands. Lands managed by BLM are included in these areas where mitigation funds are used to promote recovery of the desert tortoise. Actions taken in relation to the HCPs mentioned here are/were taken in areas that overlap the action area addressed in this biological opinion.

On November 22, 2000, the Service issued an incidental take permit (TE-034927) to Clark County, Nevada, including cities within the County and Nevada Department of Transportation (NDOT). This HCP is the only regional HCP in place that overlaps the action area. The incidental take permit allows incidental take of desert tortoises for a period of 30 years on 145,000 acres of non-Federal land in Clark County, and within NDOT ROWs, south of the 38th parallel in Nevada. The multiple species habitat conservation plan (MSHCP) and Environmental Impact Statement (RECON 2000), serves as the permittees' HCP and details their proposed measures to minimize, mitigate, and monitor the effects of covered activities.

EFFECTS OF THE PROPOSED ACTION ON THE DESERT TORTOISE AND ITS DESIGNATED CRITICAL HABITAT

Project Effects on Desert Tortoise

Direct effects are the immediate, often obvious effect of the proposed action on the desert tortoise or its designated critical habitat. Indirect effects are those that are caused by the proposed action and are later in time, but are still reasonably certain to occur (50 CFR § 402.02). In contrast to direct effects, indirect effects can be more subtle, and may affect desert tortoise populations and habitat quality over an extended period of time, long after project activities have been completed. Indirect effects are of particular concern for long-lived species such as the desert tortoise, because project-related effects may not become evident in individuals or populations until years later.

Effects from Construction and O&M

Death and injury of desert tortoises could result from excavation activities such as clearing and grubbing of vegetation; trenching activities and entrapment in open trenches and pipes; and collisions with or crushing by vehicles or heavy equipment, including individuals that take shelter under parked vehicles and are killed or injured when vehicles are moved. Desert tortoises that enter or attempt to cross project access roads may be struck resulting in death or injury. Mortality mechanisms also include individual desert tortoises or their eggs being crushed or buried in burrows during construction and O&M-related activities. Because of increased human presence in the area, desert tortoises may be killed or injured due to collection or vandalism associated with increased encounters with workers, visitors, and unauthorized pets. Desert tortoises may ingest or be entangled in trash or debris left on work sites, which may lead to death or injury (Walde et al. 2007). Desert tortoises may be attracted to the construction area by application of water to control dust, placing them at higher risk of death or injury. Desert tortoises may be adversely affected by construction noise, ground vibrations, and artificial lighting (Ruby et al. 1994). Culverts used in constructed roads may be used as burrows and shelter by desert tortoises, and tortoises could be trapped or entombed by debris or mud if culverts are not properly designed (Lovich et al. 2011). Long-term effects from wind energy facilities to desert tortoise populations are not well understood as only one facility currently exists; monitoring results from this facility have indicated that over time, desert tortoises appear to avoid areas of high turbine density and activity (Dr. Jeff Lovich, 2012, personal communication).

We estimate that all life stages of desert tortoise that occur on the SWEF and in harm's way on other project activity areas described above may be adversely affected by the proposed action. Our estimate of the numbers of desert tortoises and eggs that are likely to occur within the action area is mostly from pre-project survey data. We acknowledge, however, that not all individuals killed or injured during construction, operations, and maintenance activities will be detected by biological monitors or project staff and subsequently reported to us. The inability to detect all tortoises is largely due to the cryptic nature of desert tortoises, fossorial habits, and limited

abundance; and in the case of juveniles and eggs, their small size and location underground reduce detection probabilities of these life stages. Another confounding factor is that scavengers may locate, consume, or remove tortoise carcasses before monitors can locate them.

Overall, we expect death and injury of most subadult and adult tortoises to be avoided during construction and O&M activities through implementation of and compliance with proposed Conservation Measures. A waste management plan (Conservation Measure 1) and proper clean up after construction and maintenance activities (Conservation Measure 7) will reduce the likelihood of a desert tortoise ingesting or being entangled in trash or debris. Implementation of Conservation Measure 4 will minimize pooled water and leaks from water trucks and tanks and thus reduce this potential attractant that could draw desert tortoises to roads. Fencing of project features (Conservation Measure 8) where more human activity is likely to occur during O&M activities will reduce human-tortoise encounters. Employment of a WEAP, FCRs, authorized desert tortoise niologists, and biological monitors (Conservation Measure 9) will reduce tortoise occurrence in areas of surface-disturbing activities.

Project Access Effects

Primary access to the SWEF site would be via US-95 and SR-164. Access to project features would require construction of approximately 27.5 miles of access roads and the upgrading of approximately 9.4 miles of existing roads. Effects from the construction of access roads and upgrading of existing roads are described above (see *Construction and O&M*).

The primary effect of project access on desert tortoises is the risk of vehicle strikes due to the potential increase use of roads. Project access roads also may increase public use in the action area, which could result in additional morality or injury to desert tortoises. If designated project roads are not used, vehicles use could lead to soil compaction and vegetation changes, including decreased native plant cover and diversity, and increased erosion and non-native, invasive plant cover within the action area.

Implementation of Conservation Measures 2, 8, 9, and 10 are expected to minimize impacts to desert tortoises from increased vehicular use within the action area. Because 1) all workers will participate in the WEAP (Conservation Measure 9.s.), 2) desert tortoise caution signs will be installed on turbine access roads (Conservation Measure 9.h.), and 3) a transportation plan will be enforced to reduce speed limits from 20 miles per hour during desert tortoise low activity periods to under 15 miles per hour during desert tortoise high activity periods (Conservation 10), workers may be less likely to strike desert tortoises than a casual user. In addition, clearance surveys (Conservation Measures 9.q. and 10) and the use of authorized desert tortoise biologists and monitors during construction of the access roads (Conservation Measures 9.a. and 9.b.).

We cannot predict how many individuals will be killed or injured due to project-related access because of variables such as weather conditions, the nature and condition of roads, public use which may be confused with project use, and activity patterns of desert tortoises at the time the roads are in use; however, we expect this number to be small.

Effects of Habitat Loss and Fragmentation

Approximately 388.5 acres of occupied desert tortoise habitat would be disturbed as a result of the proposed project (Table 2). This disturbance would occur within a larger project boundary (Figure 2). Although the majority of the project would not occur in designated CH, habitat throughout the project area has similar characteristics to that in the PECHU which surrounds it. Habitat in this area has been modeled as highly suitable for desert tortoises (Nussear et al. 2009), and tortoise surveys conducted for the SWEF project indicate a moderate to high density of tortoises in the area. The removal of food and shelter resources used by desert tortoises could cause tortoises to alter their use of the area or leave it completely. Surface-disturbing activities resulting from the construction of project features could increase erosion, leading to degraded habitat (Belnap et al. 2008), which may have a negative impact on desert tortoises.

Table 2. Anticipated disturbance of desert tortoise habitat that would result from the SWEF project.

Project Feature	Total Acres of New Habitat Disturbance (acres)	Approximate Temporary Construction Disturbance (acres)[1/]	Approximate Permanent Construction Disturbance (acres)
Turbine pads	69.2	66	3.2
New and upgraded project roads and crane pads[2/]	253.0	111.4	141.6
Operations and maintenance facility	6.5	1.5	5.0
Equipment storage and construction laydown areas[3/]	28.3	28.3	0
Overhead transmission line right-of-way	16.5	16.5	0
Substations	7.0	5.0	2.0
Batch plant	1.0	1.0	0
Meteorological towers	0.01	0	0.01
WAPA's switching station	6	2.5	3.5
Total Estimated Impacts	**388.5**	**232.2**	**155.3**

1/ Temporary construction impacts are in addition to permanent impacts.
2/ Restoration of roadsides.
3/ Includes temporary office trailers and crane assembly areas.

Because recovery of vegetation in the desert can take decades or longer, we consider all ground-disturbing impacts associated with the proposed project to be long-term. Vasek et al. (1975) determined that in the Mojave Desert transmission line construction and O&M activities resulted in an unvegetated maintenance road, enhanced vegetation along the road edge and between tower sites (often dominated by nonnative species), and reduced vegetation cover under the towers, which recovered significantly but not completely in about 33 years. Webb (2002) determined that extensive disturbance and compaction in the Mojave Desert with no active restoration, soils in this environment could take between 92 and 124 years to recover. Other studies have shown that recovery of plant cover and biomass in the Mojave Desert could require 50 to 300 years in the absence of restoration efforts (Lovich and Bainbridge 1999). Based on a quantitative review of studies evaluating post-disturbance plant recovery and success in the Mojave and Sonoran

deserts, Abella (2010) determined that reestablishment of perennial shrub cover (to amounts equivalent to undisturbed areas) generally occurs within 100 years but no fewer than 40 years in some situations. He also determined that a number of variables likely affect vegetation recovery times, including but not limited to climate (e.g., precipitation and temperatures), invasion by nonnative plant species, and the magnitude and extent of ongoing disturbance.

Habitat fragmentation by roads and other project features are likely to alter desert tortoise distribution and use of the project area. Desert tortoise use of the project area may decrease or discontinue due to the increased density and use of roads, especially during construction when traffic volume will be highest (Hoff and Marlow 2002, Boarman and Sazaki 2006). Latch et al. (2011) demonstrated that roads, regardless of traffic volume and construction material, can significantly influence desert tortoise movements and therefore, gene flow at the local population level with almost immediately detectable effects. We expect these effects to be subtle and not immediately obvious but detectable over the duration of the project.

We anticipate some tortoises using the Action Area may shift or reduce their home ranges due to habitat fragmentation and degradation, but much of the habitat will remain intact and suitable and continue to be used by tortoises. Additionally, by implementing a weed management plan (Conservation Measure 2) and site rehabilitation and facility decommissioning plan (Conservation Measures 3) and restricting vehicles from inadvertent habitat disturbance, the extent of habitat fragmentation and degradation will be minimized.

Effects from Desert Tortoise Handling

Capturing and handling of tortoises for the purpose of moving them out of harm's way may result in accidental death or injury if these methods are performed improperly, such as during extreme temperatures, or if individuals void their bladders and are not rehydrated. Averill-Murray (2002) determined desert tortoises that voided their bladders during handling had lower overall survival rates (0.81 to 0.88) than those that did not void (0.96). If multiple desert tortoises are handled by biologists without the use of appropriate protective measures and procedures, such as reused latex gloves, pathogens may be spread among individuals. Because the Applicant would employ desert tortoise biologists approved by the Service and adhere to the most recent handling guidelines, we anticipate any mortality or injury to desert tortoises from activities associated with removing individuals from the proposed project site is unlikely.

Effects from Relocating Desert Tortoises

The Applicant provided measures include protocols to minimize effects to desert tortoises from moving them. Desert tortoises located in harm's way would be moved a safe distance from the location they were detected to an area of undisturbed desert habitat (e.g., more than 200 feet but less than 1,000 feet, at the discretion of the qualified desert tortoise biologist but would not be translocated as a result of the project. Because relocated tortoises would be moved a short distance and within their home ranges, we do not anticipate density-dependent effects to the population within the Action Area. Because the Applicant would employ desert tortoise

biologists approved by the Service and adhere to the most recent Service guidance in addition to implementing the conservation measures (Conservation Measure 9) outlined in the proposed action, we anticipate any mortality or injury to desert tortoises from activities associated with relocating individuals into nearby areas within the Action Area is unlikely.

Effects from Predator Subsidies

Common ravens and coyotes are attracted to human activities in the desert because of food and water subsidies, and roosting and nesting substrates that would otherwise be unavailable. Human activities also facilitate expansion of raven and coyote populations into areas where they were previously absent or in low abundance. Ravens likely will frequent the project areas because of the potential availability of such subsidies. Road-kill of wildlife along US-95 and SR-164 provides additional attractants and subsidies for opportunistic predators and scavengers; road-kill is not likely to increase appreciably as a result of the project as US-95 and SR-164 are heavily traveled highways.

Facility infrastructure, such as power poles, fences, buildings, and other structures on the project site, may provide perching, roosting, and nesting opportunities for ravens and other avian predators. Natural predation rates may be altered or increased when natural habitats are disturbed or modified. As stated above, common raven populations in some areas of the Mojave Desert have increased 1,500 percent from 1968 to 1988 in response to expanding human use of the desert (Boarman 2002). Since ravens were scarce in the Mojave Desert prior to 1940, the existing level of raven predation on juvenile desert tortoises is considered an unnatural occurrence (BLM 1990). In addition to ravens, feral dogs have emerged as significant predators of desert tortoises adjacent to residential areas. Though feral dogs may range several miles into the desert and have been found digging up and killing tortoises (Evans 2001), we are not aware of any reports of feral dogs in the project area.

To avoid and minimize the availability of project sources for predator, subsidies will be minimized by Conservation Measure 9.w., which proposes monitoring for the presence of ravens and other predators. Conservation Measures 1, 5, and 9.e. will minimize terrestrial predators and raptors and ravens in the project area by reducing attractants and perching opportunities. Specific minimization actions to be implemented include onsite trash management, elimination of available water sources, designing structures to discourage potential nest sites, use of hazing to discourage raven presence, and active monitoring of the site for presence of ravens.

Effects from Nonnative Plant Species

Another indirect effect from the development of the proposed project is the potential introduction and spread of nonnative, potentially invasive plant species into habitats adjacent to the project sites. Construction and O&M activities of the proposed project components may increase distribution and abundance of nonnative species within the action area due to ground-disturbing activities that favor these species. Project equipment may transport nonnative propagules into the project area where they may become established and proliferate. In addition, the introduction

of nonnative plant species may lead to increased wildfire risk, which ultimately may result in future habitat losses (Brooks et al. 2003) and changes in forage opportunities for desert tortoises.

The Applicant proposed conservation measures as part of the proposed action to address the potential effects from nonnative plant species. Conservation Measure 2 describes a Weed Management Plan, which will be approved by BLM prior to the initiation of ground-disturbing activities. Measures in the Weed Management Plan include: noxious weed inventory, identification of problem areas, preventative measures, herbicide treatment methods and protocol, monitoring requirements. Conservation Measure 3 describes a Site Rehabilitation and Facility Decommissioning Plan, which will include restoration and revegetation activities that should address nonnative plant infestations.

While we cannot reasonably predict the increase in nonnative species abundance that this project may cause within the action area, the degradation of habitat due to spread of nonnative plants would be minimized through the measures outlined above and in the Weed Management Plan.

Edge Effects

Increased noise levels and the presence of full-time facility lighting may affect desert tortoise behavior during construction and operations of the facility over a 30-year period. While limited data exist on the effect of noise on desert tortoises, Bowles et al. (1999) demonstrated that the species has relatively sensitive hearing (i.e., mean = 34 dB SPL), but few physiological effects were observed with short-term exposures to jet aircraft noise and sonic booms. These results cannot be extrapolated to chronic exposures over the lifetime of an individual or a population. Additionally, we do not have sufficient data documenting the effects of seismic vibrations or artificial lighting on desert tortoise behavior and therefore, cannot reasonably predict the magnitude of effect noise, seismic vibrations, or light will have on adjacent desert tortoise populations. Based on the ability of other species to adapt to noise disturbance, noise attenuation as distance from the project increases, and the fact that desert tortoises do not rely on auditory cues for their survival, we do not expect any desert tortoises to be injured or killed as a result of project-related noise impacts. In addition, the Applicant has included measures as part of the proposed action to minimize noise and light-related impacts to the species (Conservation Measure 6).

Because few data exist relative to edge effects from noise, light, vibration, and increased dust from construction and O&M activities, we cannot determine how these potential impacts may affect desert tortoise populations adjacent to the development sites. The lack of information is especially relevant when evaluating effects to individuals within the habitat linkage that would be impacted by the proposed project. Thus, the magnitude and extent of these edge effects cannot be articulated at this time, but conceivably could disturb individual desert tortoises to the extent that they abandon all or a portion of their established home ranges and move elsewhere.

Effects on Population Connectivity

Landscape genetic analysis performed by Latch et al. (2011) identified both natural (slope) and anthropogenic (roads) landscape variables that significantly influenced desert tortoise gene flow of a local population. Although they found a higher correlation of genetic distance with slope compared to roads, desert tortoise pairs from the same side of a road exhibited significantly less genetic differentiation than tortoise pairs from opposite sides of a road. Latch et al. (2011) demonstrated that roads, regardless of traffic volume and construction material, can significantly influence desert tortoise movements and therefore, gene flow at the local population level with almost immediately detectable effects.

As discussed in the revised recovery plan (Service 2011) and elsewhere, habitat linkages are essential to maintaining rangewide genetic variation (Edwards et al. 2004, Segelbacher et al. 2010) and the ability to shift distribution in response to environmental stochasticity, such as climate change (Ricketts 2000, Fischer and Lindenmayer 2007, EPA 2009). Natural and anthropomorphic constrictions (e.g., US-95) can limit gene flow and the ability of desert tortoises to move between larger blocks of suitable habitat and populations. In the action area, existing anthropomorphic constrictions compound effects of natural barriers on desert tortoise population connectivity.

Based on research from other projects, roads and other features of the Searchlight Wind Energy Facility may affect movement of tortoises. We anticipate desert tortoises will shift away from project features, which could alter gene flow patterns and affect local genetic structure without completely disconnecting populations. However, because no major anthropomorphic constrictions (e.g., major roads, fences) would be constructed for this project, we, therefore, do not anticipate the proposed action would impede population connectivity.

Critical Habitat

Project equipment may compact soils and transport weeds into the project area where they may become established, thus reducing the capability of critical habitat to serve its role for recovery of the tortoise. Additionally, the introduction of noxious weeds may lead to increased wildfire risk (Brooks et al. 2003). Measures proposed by BLM to restore disturbances, implement a fire protection plan, and implement a weed monitoring and management plan should minimize or eliminate these potential effects.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

Increased development would cause continued habitat loss, degradation, and fragmentation for the local desert tortoise population; as well as increased harm and harassment of individual desert tortoises, contributing to the cumulative degradation of the area. Planned future actions such as future industrial solar power plants and wind energy facilities would likely continue this trend. However, we know of no specific proposal by any non-Federal entity in the action area. The Service determined that most other future actions in the action area would likely require section 7 consultation since the action area is managed by BLM.

CONCLUSION

After reviewing the current status of the Mojave desert tortoise, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the species, and is not likely to adversely modify designated critical habitat. We have reached this conclusion based on the following factors:

- BLM, the applicant, and their contractors will implement numerous measures outlined above to ensure that most tortoises are located and moved out of harm's way and potential desert tortoise injury and mortality is minimized on project work sites (e.g., clearance surveys, authorized desert tortoise biologists, desert tortoise monitors). Since these measures will be implemented, we anticipate that the level of take will be low.

- BLM, the applicant, and their contractors will implement measures that are outlined above to ensure that impacts to desert tortoise critical and non-critical habitat are minimized.

- The project would not significantly affect the rangewide number, distribution, or reproduction of the species; desert tortoises that are moved out of harm's way and placed within their home range will remain in the wild with no long-term adverse effects to survival and reproduction;

- PCEs of critical habitat would be adversely affected but not to the extent they would no longer function within the PECHU or reduce the capability of the PECHU to support the current number of tortoises in the PECHU; amount to be disturbed is small (7 acres).

- This project would not result in a substantial increase in fragmentation of desert tortoise habitat because BLM would implement measures to minimize fragmentation within the Action Area and much of the area would remain intact and suitable for tortoises. ;

- The potential spread of non-native plant species would be minimized through implementation of an invasive weed management plan.

- Compensation requirements through BLM would result in implementing recovery actions for the desert tortoise, as identified by BLM and the Service.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act, and Federal regulation pursuant to section 4(d) of the Act, prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined as intentional or negligent actions that create the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not the purpose of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this incidental take statement.

The measures described below for desert tortoises are non-discretionary and must be undertaken by BLM so that they become binding conditions of any grant or permit issued to the applicants/permittees, as appropriate, for the exemption in section 7(o)(2) to apply. BLM has a continuing duty to regulate the activity covered by this incidental take statement. If BLM: 1) fails to assume and implement the terms and conditions; or 2) fails to require the Applicant to adhere to the terms and conditions of the incidental take statement through enforceable stipulations that are incorporated into the permit or grant document, the protective coverage of section 7(o)(2) may lapse. To monitor the impact of incidental take, BLM must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR § 402.14(i)(3)].

AMOUNT AND EXTENT OF TAKE

The proposed action will result in take of all desert tortoises that occur on project work sites and roads; and areas where tortoise exclusion fencing would be installed. Additional desert tortoises in the action area, including buffer areas, may be affected by the project to the extent that incidental take may occur; however, such effects are anticipated to be minor and involve mostly alteration in feeding, sheltering, and reproductive behavior due to project disturbances and the reduction or fragmentation of habitat in their home ranges.

We acknowledge that we cannot precisely quantify the amount of take that will occur during all project activities. Some of the constraints that make it difficult to determine desert tortoise densities and abundance include the cryptic nature of the species (i.e., individuals spend much of

their lives underground or concealed under shrubs), inactivity in years of low rainfall, and low abundance across a broad distribution within several different habitat types. In addition, population numbers and distribution of individuals fluctuate in response to weather patterns and other biotic and abiotic factors over time. The number of juvenile desert tortoises and eggs is even more difficult to quantify because of their small size, their location underground, and low detection probabilities during surveys. The following paragraphs define the form of take and the number of individuals we anticipate will taken by project activities.

TAKE FROM CONSTRUCTION AND O&M ACTIVITIES

Table 3 identifies the incidental take threshold for all age classes of desert tortoises during construction and O&M activities and the estimated loss of critical and non-critical habitat. The actual number of individuals missed during clearance surveys and killed during construction is unknown. We expect most tortoises missed would be hatchlings and juveniles. Locating the carcasses of small tortoises or egg fragments is unlikely. To address this issue, we have used the threshold for capture of subadult and adult individuals on the proposed project site as a surrogate measure of mortality of the smaller size classes and eggs. Using this threshold as a surrogate assumes that our method of calculating the number of reproductive females, which is based on the estimated abundance of subadult and adult desert tortoises on the proposed project sites, allows us to also calculate the number of juveniles and eggs that may be affected. Consequently, finding more than 51 subadult and adult desert tortoises on the SWEF would indicate that a larger number of juveniles and eggs may be killed or destroyed during construction.

Although we do not know how many desert tortoises will be encountered in harm's way, based on the proposed action and tortoise survey, we estimate that 50 desert tortoises may be located in harm's way and captured and moved out of harm's way during construction activities. We estimate 3 desert tortoises per year may be located in harm's way and captured and moved out of harm's way during O&M activities. No more than one subadult or adult desert tortoise and two hatchling or juvenile tortoise would be killed or injured during construction activities. No more than one subadult or adult desert tortoise and two hatchling or juvenile tortoise not to exceed one per calendar year would be killed or injured during O&M activities.
O&M activities may result in incidental take, in the form of mortality or injury, of no more than two subadult or adult desert tortoise and two hatchling or juvenile desert tortoises but not to exceed more than one per calendar year for each of the two size groups (Table 3).

The disturbance of up to 388.5 acres of habitat from construction or upgrading activities for the SWEF, including access roads, turbine pads, project facilities, and transmission lines, may result in harm to desert tortoises that use this area as part of their home range. If the proposed project-related activities result in impacts to desert tortoise habitat beyond this acreage, the amount or extent of take will be exceeded.

Table 3. Desert Tortoise Incidental Take Thresholds for the Searchlight Wind Energy Project, Clark County, Nevada.

Activity	Exempted Mortality, Injury, and Destruction		Exempted Capture and Handling		Anticipated Habitat Loss (acres)	
	Adults / Subadults	Juveniles / Hatchlings	Adults / Subadults	Juveniles / Hatchlings	Critical	Non-critical
Construction	1	2	All in harm's way; estimate = 50	All in harm's way; Unknown	7	382
Operation and Maintenance	1	2[1]	All in harm's way; estimate = 3/year	All in harm's way; Unknown	0	0

[1]Not to exceed one per calendar year.

After facility closure, decommissioning activities and restoration of long-term disturbances from the SWEF would be conducted. Because we do not have sufficient information regarding the method or extent of these activities, we cannot determine the level of take that would be associated. Consequently, we are not granting an exemption from the prohibitions against take for these activities. These actions would require reinitiating consultation.

EFFECT OF TAKE

In the accompanying biological opinion, the Service determined that the levels of anticipated take associated with this project alone are not likely to jeopardize the continued existence or adversely affect the recovery of the Mojave desert tortoise, and the action is not likely to result in the destruction or adverse modification of its critical habitat.

REASONABLE AND PRUDENT MEASURES (RPMS) WITH TERMS AND CONDITIONS

BLM and the Applicant will implement numerous conservation measures as part of the proposed action to minimize the incidental take of desert tortoises. Our evaluation of the proposed action is based on the assumption that the actions as set forth in the *Description of the Proposed Action – Conservation Measures* section of this biological opinion will be implemented. Any proposed changes to the conservation measures or in the conditions under which project activities were evaluated may constitute a modification of the proposed action. If this modification causes an effect to desert tortoises that was not considered in the biological opinion, reinitiation of formal

consultation pursuant to the implementing regulations of section 7(a)(2) of the Act (50 CFR § 402.16) may be warranted. The following RPMs supplement and clarify conservation measures included as part of the proposed action. The RPMs are necessary and appropriate to minimize the impact of take on desert tortoises.

To be exempt from the prohibitions of section 9 of the Act, BLM and the Applicant, including all agents and contractors, must comply with the following terms and conditions, which implement the RPMs described below, and are intended to minimize the impact of incidental take on the Mojave desert tortoise. These terms and conditions are non-discretionary.

RPM 1: *BLM shall ensure the level of incidental take anticipated in this biological opinion is commensurate with the analysis contained herein.*

Terms and Conditions:

The following terms and conditions implement RPM 1:

1.a. To ensure that the conservation measures are effective and properly implemented, the Service shall be informed immediately upon discovery of a desert tortoise that has been killed or injured as a result of project activities. At that time, and in coordination with the Service, BLM must review the circumstances surrounding the incident to determine whether additional protective measures are required. Project activities may continue pending outcome of the review, provided the conservation measures included as part of the proposed action (see *Conservation Measures* section) and the terms and conditions in this biological opinion have been and continue to be fully implemented.

1.b. We do not expect that take, in the form of capture and handling, required to move desert tortoises out of harm's way during construction and O&M activities will result in mortality or injury of any individuals. If desert tortoise mortalities and injuries exceed thresholds identified in Table 3, BLM must reinitiate consultation on the proposed action. This term and condition only applies to clearance of the project sites for construction and does not apply to the relocation of desert tortoises out of harm's way.

1.c. BLM shall coordinate with the Service to develop a monitoring program to determine long-term project impacts on desert tortoise occurrence and distribution in the Action Area.

RPM 2: *BLM shall ensure that desert tortoises and their eggs in harm's way are located, properly handled, and moved to safety.*

Terms and Conditions:

2.a. A desert tortoise education program shall be presented by an authorized desert tortoise biologist to all personnel onsite during construction activities. This program will contain information concerning the biology and distribution of the desert tortoise, its legal status and occurrence in the project area, the definition of take and associated penalties, measures designed to minimize the effects of construction activities, the means by which employees can facilitate this process, and reporting requirements to be implemented when desert tortoises are encountered.

2.b. A designated field contact representative (FCR) will be assigned to the construction phase of the SWEF; additional FCRs will be assigned for the linear project components including the transmission line on the BLM ROW. Authorized desert tortoise biologists and the FCRs shall be onsite during all construction activities to ensure compliance with this biological opinion, including avoidance of inadvertently harming any desert tortoises that may wander onto the construction site. The authorized desert tortoise biologist and FCRs shall be responsible for: 1) enforcing the litter-control program; 2) ensuring that desert tortoise habitat disturbance is restricted to authorized areas; 3) ensuring that all equipment and materials are stored within the boundaries of the construction zone or within the boundaries of previously-disturbed areas or designated areas; 4) ensuring that all vehicles associated with construction activities remain within the proposed construction zones; and 5) ensuring compliance with the conservation measures of this biological opinion.

Potential authorized desert tortoise biologists must submit their statement of qualifications to the Service's Nevada Fish and Wildlife Office for approval, allowing a minimum of 30 days for Service response. The statement form is available on the internet at:
http://www.fws.gov/nevada/desert_tortoise/auth_dt_form.htm.
Within 3 days of employment or assignment, the Applicant or BLM, shall provide the Service with the names of FCRs and biological monitors who assisted the authorized desert tortoise biologist.

2.c. Prior to surface-disturbing activities, authorized desert tortoise biologists potentially assisted by project monitors, shall conduct a clearance survey to locate and remove all desert tortoises from areas to be disturbed or harm's way using techniques providing full coverage of all areas. Two passes of complete coverage will be accomplished. The authorized desert tortoise biologists shall also capture, handle, and relocate desert tortoises from harm's way in accordance with the Desert Tortoise Field Manual (Service 2009), as appropriate. Any desert tortoise eggs found in harm's way will be relocated from harm's way, up to 1,000 feet

from the point of capture, by an authorized desert tortoise biologist in accordance with approved protocol (Service 2009). Desert tortoise burrows that occur immediately outside work areas that can be avoided by project activities shall be clearly marked or flagged to prevent crushing. Burrows occupied by adult females will be examined thoroughly for nests and eggs during the months of May through October.

2.d. All burrows found within areas proposed for disturbance, whether occupied or vacant, shall be excavated by an authorized desert tortoise biologist and collapsed or blocked to prevent desert tortoise re-entry. All burrows will be excavated with hand tools to allow removal of desert tortoises or desert tortoise eggs. All desert tortoise handling and excavations, including nests, will be conducted by an authorized desert tortoise biologist in accordance with Service-approved protocol (Service 2009).

2.e. For desert tortoises that need to be relocated out of harm's way, the tortoise should be placed out of the path of project activity as per the instructions and guidance from the authorized desert tortoise biologist.

2.f. If a tortoise is found and relocated to a safe area, an authorized desert tortoise biologist, biological monitor, or FCR shall inform workers in the area to be particularly watchful for the tortoise as it may return to the work area.

2.g. Areas underneath parked project vehicles and equipment will be inspected for desert tortoises before moving them.

2.h. Vehicle speeds within the project area will not exceed those identified in the Conservation Measure 10 proposed under the *Description of the Proposed Action*. Speed limits will be clearly marked and all workers will be made aware of these limits.

2.i. Water used for fugitive dust control will not be allowed to pool on access roads or other project areas outside the fenced area, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water.

2.j. Should any desert tortoise be injured or killed, all activities that have the potential for take will be halted, features that present a danger to desert tortoises (e.g., open trenches) will be secured, and the FCR and/or authorized desert tortoise biologist immediately contacted, who will notify the appropriate office of the Service.

2.k. BLM and the Applicant shall implement appropriate measures, which may include measures not specified in this biological opinion, to ensure that desert tortoises

captured and moved, or occurring in harm's way do not die or become injured as a direct or indirect (e.g., predation, maladjustment to release areas) result of the project. Measures in this biological opinion may require modification, and additional measures may be necessary in response to conditions and situations that pose a threat to the well-being of desert tortoises, in consultation with the Service.

RMP 3: *BLM shall ensure implementation of measures to minimize predation on desert tortoises by ravens or other desert tortoise predators attracted to the action area.*

Terms and Conditions:

3.a. A litter control program shall be implemented to reduce the attractiveness of the area to opportunistic predators such as desert kit fox, coyotes, and common ravens. Trash and food items will be disposed properly in predator-proof containers with re-sealing lids. Trash containers will be emptied and construction waste will be removed daily from the project area and disposed of in an approved landfill.

3.b. The Applicant will monitor for the presence of ravens and other potential human-subsidized predators will be conducted and a control plan will be implemented if predator densities substantially increase in the vicinity of the facility, in coordination with the Service. In addition to trash management, the Applicant will implement BMPs to discourage the presence of ravens onsite including elimination of available water sources, designing structures to discourage potential nest sites, use of hazing to discourage raven presence, and active monitoring of the site for presence of ravens.

3.c. Dogs will be prohibited in all project work areas.

RMP 4: *BLM shall ensure implementation of measures to minimize loss and long-term degradation of desert tortoise habitat, such as soil compaction, erosion, crushed vegetation, or introduction of non-native invasive plants or weeds as a result of project activities.*

Terms and Conditions:

4.a. Perennial native vegetation will be flagged and avoided to the maximum extent practicable.

4.b. Cross-country travel and travel outside designated areas shall be prohibited.

4.c. The Applicant and BLM will coordinate to salvage and relocate cacti, yuccas, and shrubs on linear ROWs and plant them back on temporarily disturbed portions of the ROWs.

4.d. All work area boundaries will be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. All workers, equipment, vehicles, and construction materials shall remain within the ROW, existing roads, and designated areas. Staging areas will be located in previously-disturbed areas whenever possible.

4.e. The Applicant will develop a habitat restoration plan to be implemented for all temporary disturbances associated with construction of the project to be approved by BLM and the Service.

4.f. The proposed Weed Management Plan will be developed and implemented (Conservation Measure 2) and will be approved by BLM and the Service.

4.g. Final power transmission tower and associated spur road locations will be adjusted to avoid potentially active tortoise burrows.

4.h. Prior to surface-disturbing activities associated with the SWEF, BLM shall collect remuneration fees for compensation of desert tortoise habitat loss (Appendix A). Remuneration fees shall be used for management actions, as identified by the BLM and Service, expected to promote recovery of the desert tortoise over time. Actions may involve habitat acquisition, population or habitat enhancement, increasing knowledge of the species' biological requirements, reducing loss of individual animals, documenting the species status and trend, and preserving distinct population attributes.

BLM estimates that 382 acres of non-critical habitat and 7 acres of critical habitat will be disturbed. The current rate is $810 per acre of disturbance outside desert tortoise critical habitat. The fees will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) and becomes effective March 1 of each year. The next adjustment will occur March 1, 2013. Information on the CPI-U can be found on the internet at: http://www.bls.gov/news.release/cpi.toc.htm. Total fees for project disturbance of desert tortoise non-critical habitat will be (382 acres x $810) $309,420.

For disturbance of critical habitat on BLM lands, the fee would be assessed at the rate of (4 x $810) $3,240 per acre of disturbance (Hastey et al. 1991). Total fees for project disturbance of desert tortoise critical habitat will be (7 acres x $3,240) $22,680.

This fee will be paid directly to BLM. The payment shall be accompanied by the Section 7 Fee Payment Form and completed by the payee. Payment shall be certified check or money order payable to BLM, and delivered to:

DOI/BLM
ATTN: Information Access Center
The Bureau of Land Management
1340 Financial Boulevard
Reno, Nevada 89502
Contact: (775) 861-6400

RPM 5: *BLM shall ensure implementation of measures to ensure compliance with the RPMs, Terms and Conditions, reporting requirements, and reinitiation requirements contained in this biological opinion.*

Terms and Conditions:

5.a. BLM will hold a preconstruction meeting with Duke Energy and the compliance inspection contractor (CIC) to discuss implementation of the terms and conditions of the biological opinion.

5.b. Construction and O&M reporting requirements: BLM will be responsible for providing immediate notification to the Service of any desert tortoise mortality or injury that occurs during construction or O&M activities.

The authorized desert tortoise biologist shall record each observation of desert tortoise handled in the tortoise monitoring reports. Information will include the following: location (GPS), date and time of observation, whether desert tortoise was handled, general health and whether it voided its bladder, location desert tortoise was moved from and location moved to, unique physical characteristics of each tortoise, and effectiveness and compliance with the desert tortoise protection measures.

BLM will be responsible for providing a final report within 90 days of completion of the construction activities of the SWEF to the Service reports shall be provided to the Service during O&M activities for the life of the facility. Specifically, these reports must include Table 4 (see below), the information described above, and information on any instances when desert tortoises were killed, injured, or captured and handled; the circumstances of such incidents; and any actions undertaken to prevent similar incidents from reoccurring. Additional information regarding the effectiveness of minimization measures and RPMs of this biological opinion should be included in the annual report.

Table 4. Desert Tortoise Actual Incidental Take for the Searchlight Wind Energy Project, Clark County, Nevada.

Activity	Actual Mortality, Injury, and Destruction		Actual Harassment: Capture and Removal		Actual Habitat Loss (ac)	
	Adults / Subadults	Juveniles / Hatchlings	Adults / Subadults	Juveniles / Hatchlings	Critical	Non-critical
Construction						
Operation and Maintenance						
Predation					None	
Minimization Measure Implemented		**Effectiveness and Recommendations**				

5.b. Any incident occurring during project activities that was considered by the FCR, authorized desert tortoise biologist, or biological monitor to be in non-compliance with this biological opinion will be documented immediately by the authorized desert tortoise biologist.

REPORTING REQUIREMENTS

BLM will be responsible for providing monthly reports during construction and annual reports during O&M activities. BLM may delegate this responsibility to the Applicant. In addition, a final construction report will be submitted to the Service within 60 days of completion of construction of the project. All monthly reports are due within 10 days following the end of the month and annual reports are due February 1 of each year. The Service anticipates the first annual report by February 1, 2014, if construction or project activities are initiated in 2013. Annual reports shall be provided to the Service during O&M activities for the life of the facility. Specifically, these reports must include Table 4 (see above) and information on any instances when desert tortoises were killed, injured, or handled; the circumstances of such incidents; and any actions undertaken to prevent similar incidents from reoccurring.

Table 4. Desert Tortoise Actual Incidental Take for the Searchlight Wind Energy Project, Clark County, Nevada.

Activity	Actual Mortality, Injury, and Destruction		Actual Harassment: Capture and Removal		Actual Habitat Loss (ac)	
	Adults / Subadults	Juveniles / Hatchlings	Adults / Subadults	Juveniles / Hatchlings	Critical	Non-critical
Construction						
Operation and Maintenance						
Predation					None	
Minimization Measure Implemented		**Effectiveness and Recommendations**				

5.b. Any incident occurring during project activities that was considered by the FCR, authorized desert tortoise biologist, or biological monitor to be in non-compliance with this biological opinion will be documented immediately by the authorized desert tortoise biologist.

REPORTING REQUIREMENTS

BLM will be responsible for providing monthly reports during construction and annual reports during O&M activities. BLM may delegate this responsibility to the Applicant. In addition, a final construction report will be submitted to the Service within 60 days of completion of construction of the project. All monthly reports are due within 10 days following the end of the month and annual reports are due February 1 of each year. The Service anticipates the first annual report by February 1, 2014, if construction or project activities are initiated in 2013. Annual reports shall be provided to the Service during O&M activities for the life of the facility. Specifically, these reports must include Table 4 (see above) and information on any instances when desert tortoises were killed, injured, or handled; the circumstances of such incidents; and any actions undertaken to prevent similar incidents from reoccurring.

Any incident occurring during project activities that was considered by the FCR, authorized desert tortoise biologist or biological monitor to be in non-compliance with this biological opinion will be documented immediately by the authorized desert tortoise biologist to be included in reporting.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to use their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

> *We recommend BLM develop a monitoring program to determine long-term project effects to desert tortoise abundance, distribution, and use of the project area in coordination with a university or government entity that will be able to disseminate information that is collected through peer-reviewed publications.*

REINITIATION NOTICE

This concludes formal consultation on the BLM's proposal to issue ROW grants to Searchlight Wind and WAPA for construction of the SWEF and its associated structures and components on BLM-administered lands. Consistent with 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal involvement or control over the action has been retained (or is authorized by law) and if: 1) the amount or extent of take specified in the incidental take statement is exceeded; 2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; 3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this biological opinion; and 4) a new species is listed or critical habitat designated that may be affected by the action. In addition, if any of the stated assumptions used in our analysis are invalidated, BLM must reinitiate consultation.

LITERATURE CITED

Abella, S.R. 2010. Disturbance and plant succession in the Mojave and Sonoran deserts of the American Southwest. International Journal of Environmental Research and Public Health 7:1248-1284.

Averill-Murray, R.C. 2002. Effects on survival of desert tortoises (*Gopherus agassizii*) urinating during handling. Chelonian Conservation and Biology 4:430-435.

Belnap, J., R. H. Webb, M. E. Miller, D. M. Miller, L. A. DeFalco, P. A. Medica, M. L. Brooks, T. C. Esque, and D. Bedford. 2008. Monitoring ecosystem quality and function in arid settings of the Mojave Desert. U.S. Geological Survey Scientific Investigations Report 2008-5064, 199 pp.

Boarman, W.I. 2002. Threats to desert tortoise populations: A critical review of the literature. U.S. Geological Survey, Western Ecological Research Center, Sacramento, California.

Boarman, W.I., and M. Sazaki. 2006. A highway's road-effect zone for desert tortoises (*Gopherus agassizii*). Journal of Arid Environments 65:94-101.

Bowles, A.E., E. Eckert, L. Starke, E. Berg, L. Wolski, and J. Matesic, Jr. 1999. Effects of flight noise from jet aircraft and sonic booms on hearing, behavior, heart rate, and oxygen consumption of desert tortoise (*Gopherus agassizii*). AFRL-HE-WP-TR-1999-0170. Sea World Research Institute, Hubbs Marine Research Center, San Diego, California.

Brooks, M.L. 2003. Effects of increased soil nitrogen on the dominance of alien annual plants in the Mojave Desert. Journal of Applied Ecology 40:344-353.

Bureau of Land Management (BLM). 1990. Draft raven management plan for the California Desert Conservation Area. Prepared by Bureau of Land Management, California Desert District, Riverside, California.

BLM (Bureau of Land Management). 2010. Memorandum of Understanding Between the Bureau of Land Management in Nevada and the United States Fish and Wildlife Service in Nevada to Coordinate the Management of Compensation Fees to Benefit the Mojave Population of the Desert Tortoise (*Gopherus Agassizii*) in Nevada. May 2010. 6 pp.

Edwards, T., E.W. Stitt, C.R. Schwalbe, and D.E. Swann. 2004. *Gopherus agassizii* (desert tortoise). movement. Herpetological Review 35:381-382.

Evans, R. 2001. Free-roaming dog issues at the United States Marine Corps Air Ground Combat Center, Twentynine Palms, California. Proceedings of the 2001 Desert Tortoise Council Symposium.

Fischer, J. and D. B. Lindenmayer. 2007. Landscape modification and habitat fragmentation: a synthesis. Global Ecology and Biogeography 16:265-280.

Freilich, J. E., K. P. Burnham, C. M. Collins, C. A. Garry. 2000. Factors affecting population assessments of desert tortoises. Conservation Biology 14:1479-1489.

Hastey, E., L. K. Rosenkrance, B. R. Templeton, J. M. Parker, W. H. Radtkey, D. L. Harlow, B. D. Taubert, F. Worthley, W. A. Molini, and R. D. Radantris. 1991. Compensation for the desert tortoise. A report prepared for the Desert Tortoise Management Oversight Group. November 1991. 16 pp.

Hoff, K. V. S., and R. W. Marlow. 2002. Impacts of vehicle road traffic on desert tortoise populations with consideration of conservation of tortoise habitat in southern Nevada.

Boarman, W.I. 2002. Threats to desert tortoise populations: A critical review of the literature. U.S. Geological Survey, Western Ecological Research Center, Sacramento, California.

Boarman, W.I., and M. Sazaki. 2006. A highway's road-effect zone for desert tortoises (*Gopherus agassizii*). Journal of Arid Environments 65:94-101.

Bowles, A.E., E. Eckert, L. Starke, E. Berg, L. Wolski, and J. Matesic, Jr. 1999. Effects of flight noise from jet aircraft and sonic booms on hearing, behavior, heart rate, and oxygen consumption of desert tortoise (*Gopherus agassizii*). AFRL-HE-WP-TR-1999-0170. Sea World Research Institute, Hubbs Marine Research Center, San Diego, California.

Brooks, M.L. 2003. Effects of increased soil nitrogen on the dominance of alien annual plants in the Mojave Desert. Journal of Applied Ecology 40:344-353.

Bureau of Land Management (BLM). 1990. Draft raven management plan for the California Desert Conservation Area. Prepared by Bureau of Land Management, California Desert District, Riverside, California.

BLM (Bureau of Land Management). 2010. Memorandum of Understanding Between the Bureau of Land Management in Nevada and the United States Fish and Wildlife Service in Nevada to Coordinate the Management of Compensation Fees to Benefit the Mojave Population of the Desert Tortoise (*Gopherus Agassizii*) in Nevada. May 2010. 6 pp.

Edwards, T., E.W. Stitt, C.R. Schwalbe, and D.E. Swann. 2004. *Gopherus agassizii* (desert tortoise). movement. Herpetological Review 35:381-382.

Evans, R. 2001. Free-roaming dog issues at the United States Marine Corps Air Ground Combat Center, Twentynine Palms, California. Proceedings of the 2001 Desert Tortoise Council Symposium.

Fischer, J. and D. B. Lindenmayer. 2007. Landscape modification and habitat fragmentation: a synthesis. Global Ecology and Biogeography 16:265-280.

Freilich, J. E., K. P. Burnham, C. M. Collins, C. A. Garry. 2000. Factors affecting population assessments of desert tortoises. Conservation Biology 14:1479-1489.

Hastey, E., L. K. Rosenkrance, B. R. Templeton, J. M. Parker, W. H. Radtkey, D. L. Harlow, B. D. Taubert, F. Worthley, W. A. Molini, and R. D. Radantris. 1991. Compensation for the desert tortoise. A report prepared for the Desert Tortoise Management Oversight Group. November 1991. 16 pp.

Hoff, K. V. S., and R. W. Marlow. 2002. Impacts of vehicle road traffic on desert tortoise populations with consideration of conservation of tortoise habitat in southern Nevada. Chelonian Conservation and Biology 4:449-456.

Latch, E.K., W.I. Boarman, A. Walde, and R.C. Fleischer. 2011. Fine-scale analysis reveals cryptic landscape genetic structure in desert tortoises. PLoS ONE 6(11):e27794. doi:10.1371/journal.pone.0027794.

Lovich, J.E., and D. Bainbridge. 1999. Anthropogenic degradation of the southern California desert ecosystem and prospects for natural recovery and restoration. Environmental Management 249:309-326.

Lovich, J. E., J. R. Ennen, S. Madrak, and B. Grover. 2011. Turtles, culverts, and alternative energy development: an unreported but potentially significant mortality threat to the desert tortoise (*Gopherus agassizii*). Chelonian Conservation and Biology 10:124-129.

Nussear, K. E., T. C.Esque, D. F. Haines, and C. R. Tracy. 2007. Desert tortoise hibernation: temperatures, timing, and environment. Copeia 2007:378-386.

Nussear, K. E., T. C. Esque, R. D. Inman, L. Gass, K. A. Thomas, C. S. A. Wallace, J. B. Blainey, D. M. Miller, and R. H. Webb. 2009 Modeling habitat of the desert tortoise (Gopherus agassizii) in the Mojave and parts of the Sonoran Deserts of California, Nevada, Utah, and Arizona. U.S. Geological Survey Open-File Report 2009-1102, 18 pp.

RECON (Regional Environmental Consultants). 2000. Clark County MSHCP. Prepared for Clark County, 500 Grand Central Parkway, Las Vegas, Nevada 89155.

Tetra Tech. 2012. Biological assessment for Searchlight Wind Energy Project Clark County, Nevada. Prepared for Bureau of Land Management, Las Vegas Field Office, March 2012.

Ricketts, T.H. 2000. The matrix matters. The American Naturalist 158(1):87-99.

Ruby, D. E., J. R. Spotila, S. K. Martin, and S. J. Kemp. 1994. Behavioral responses to barriers by desert tortoises: implications for wildlife management. Herpetological Monographs 8:144-160.

Segelbacher, G., S.A. Cushman, B.K. Epperson, M. Fortin, O. Francois, O.J. Hardy, R. Holderegger, P. Taberlet, L.P. Waits, and S. Manel. 2010. Applications of landscape.

Service (Fish and Wildlife Service). 1994. Desert tortoise (Mojave population) recovery plan. U.S. Fish and Wildlife Service, Portland, Oregon.

Service (Fish and Wildlife Service). 2009. Desert tortoise (Mojave population) field manual (*Gopherus agassizii*). Region 8, Sacramento, California. Available on the internet at: http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/index.html

Service (Fish and Wildlife Service). 2010a. Mojave population of the desert tortoise *(Gopherus agassizii),* 5-year review: summary and evaluation. Desert Tortoise Recovery Office, Reno, Nevada. September 30, 2010. Available on the internet at: www.fws.gov/.../five_year_review/doc3572.DT%205Year%20Review_FINAL.pdf

Service (Fish and Wildlife Service). 2010b. Preparing for any action that may occur within the range of the Mojave Desert Tortoise. Region 8, Sacramento, California. Available on the internet at: http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/index.html

Service (Fish and Wildlife Service). 2011. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California. 222 pp.

U.S. Environmental Protection Agency (EPA). 2009. A framework for categorizing the relative vulnerability of Threatened and Endangered species to climate change. EPA/600/R-09/011. National Center for Environmental Assessment, Washington, D.C.

Vasek, F. C., H. B. Johnson, and D. H. Eslinger. 1975. Effects of pipeline construction on creosote bush scrub vegetation of the Mojave Desert. Madroño 23:1-13.

Walde, A. D., M. L. Harless, D. K. Delaney, and L. L. Pater. 2007. Anthropogenic threat to the desert tortoise (*Gopherus agassizii*): litter in the Mojave Desert. Western North American Naturalist 67:147-149.

Webb, R.H. 2002. Recovery of severely compacted soils in the Mojave Desert, California, USA. Arid Land Research and Management 16: 291-305.

Zimmerman, L.C., M.P. O'Connor, S.J. Kemp, and J.R. Spotila. 1994. Thermal ecology of desert tortoises in the Eastern Mojave Desert: seasonal patterns of operative and body temperatures and microhabitat utilization. Herpetological Monographs 8:45-59.

Personal Communications

Lovich, Jeffrey E. 2012. Deputy Director of the Southwest Biological Science Center, U.S. Geological Survey, Flagstaff, Arizona.

Appendix A

Appendix A. NEVADA BLM SECTION 7 LAND DISTURBANCE FEE PAYMENT FORM

Biological Opinion File Number: 84320-2012-F-0211

Biological Opinion Issued By: Nevada Fish and Wildlife Office, Las Vegas, Nevada

Species: Desert Tortoise (*Gopherus agassizii*) (Mojave population)

Project Name: Searchlight Wind Energy Project

Project Applicant: Searchlight Wind Energy, LLC

Phone Number: _____

Payment Calculations:	Clark County		_____ County		_____ County	
	Critical habitat	Non-critical habitat	Critical habitat	Non-critical habitat	Critical habitat	Non-critical habitat
# acres anticipated to be disturbed on federal land	7	382				
Fee rate (per acre)	$3,240	$810				
Subtotals	$22,680	$309,420				
Total cost per county	$ 332,100		$ -		$ -	

Amount paid: _____ **Date:** _____ **Check/Money Order #:** _____

Authorizing agencies: Bureau of Land Management, Las Vegas Nevada

Make check payable to: Bureau of Land Management

Deliver check to:

Physical Address
Bureau of Land Management
Attn: Information Access Ctr
1340 Financial Blvd.
Reno, NV 89502

PO Box
Bureau of Land Management
Attn: Information Access Ctr
PO Box 12000
Reno, NV 89520-0006

For BLM Public Room

Process check to:
Contributed Funds-All Other
WBS: LVTFF1000800
7122 FLPMA

Please provide a copy of this completed payment form and the payment receipt to NV-930, Attn: T&E Program Lead
***T&E Program Lead will provide a copy to the appropriate District Office(s)*

All other Res. Dev. Project and Management
Remarks: LLNV9300000 L71220000.JP0000 LVTFF1000800 Desert Tortoise Conservation Program

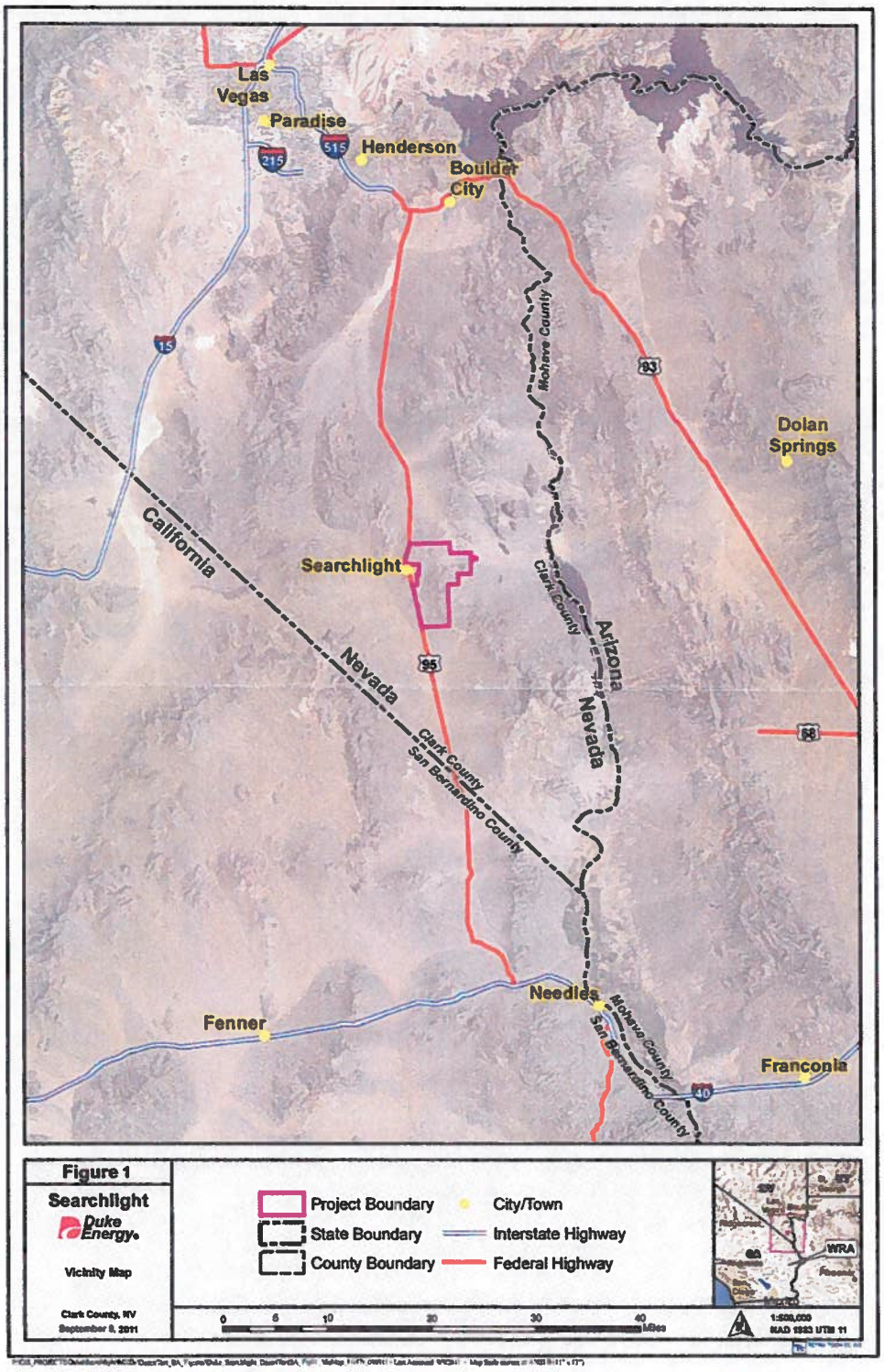


Figure 1. General location of the Searchlight Wind Energy Project, Clark County, Nevada.

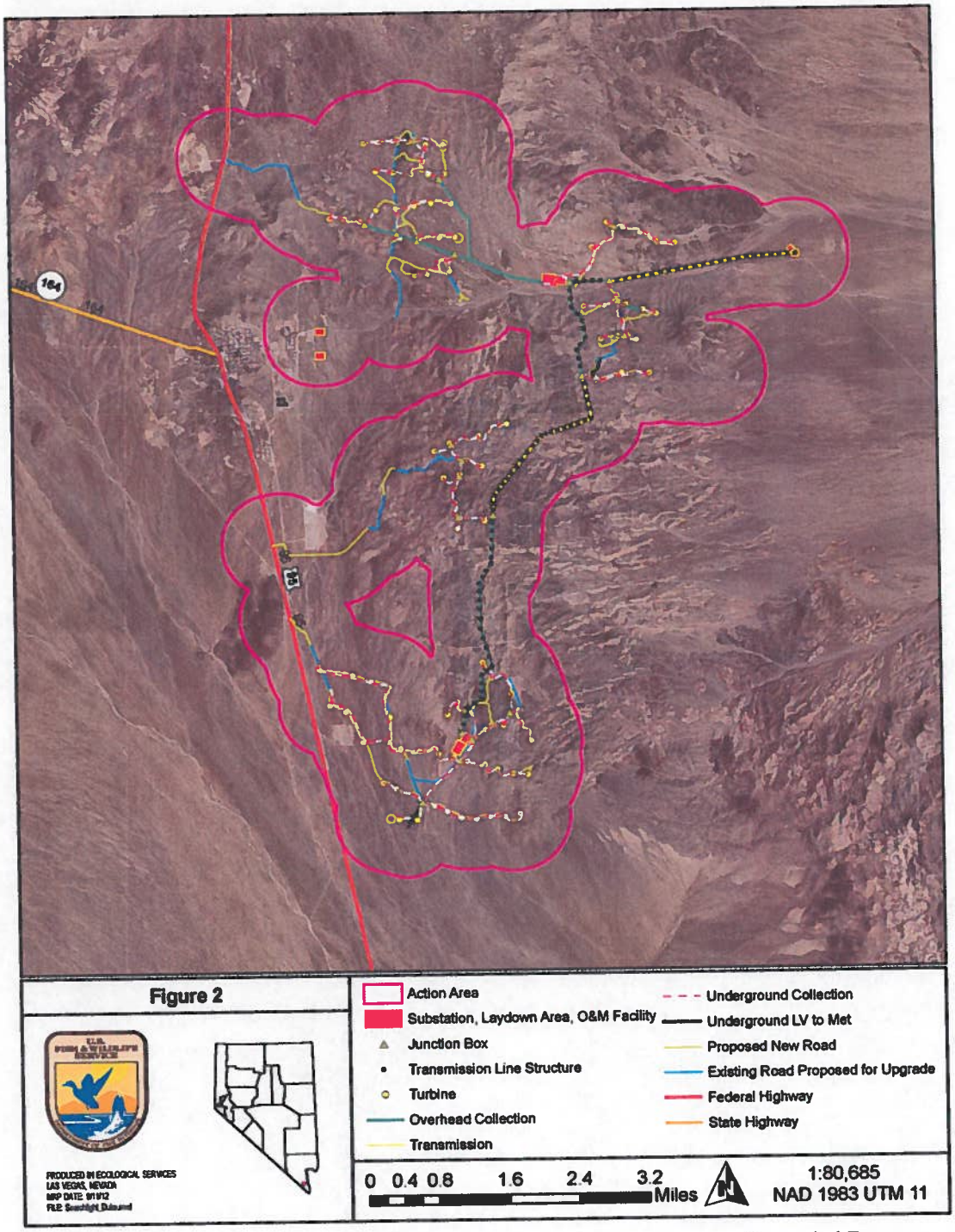


Figure 2. Action Area and approximate location of project features for the Searchlight Wind Energy Project, Clark County, Nevada.

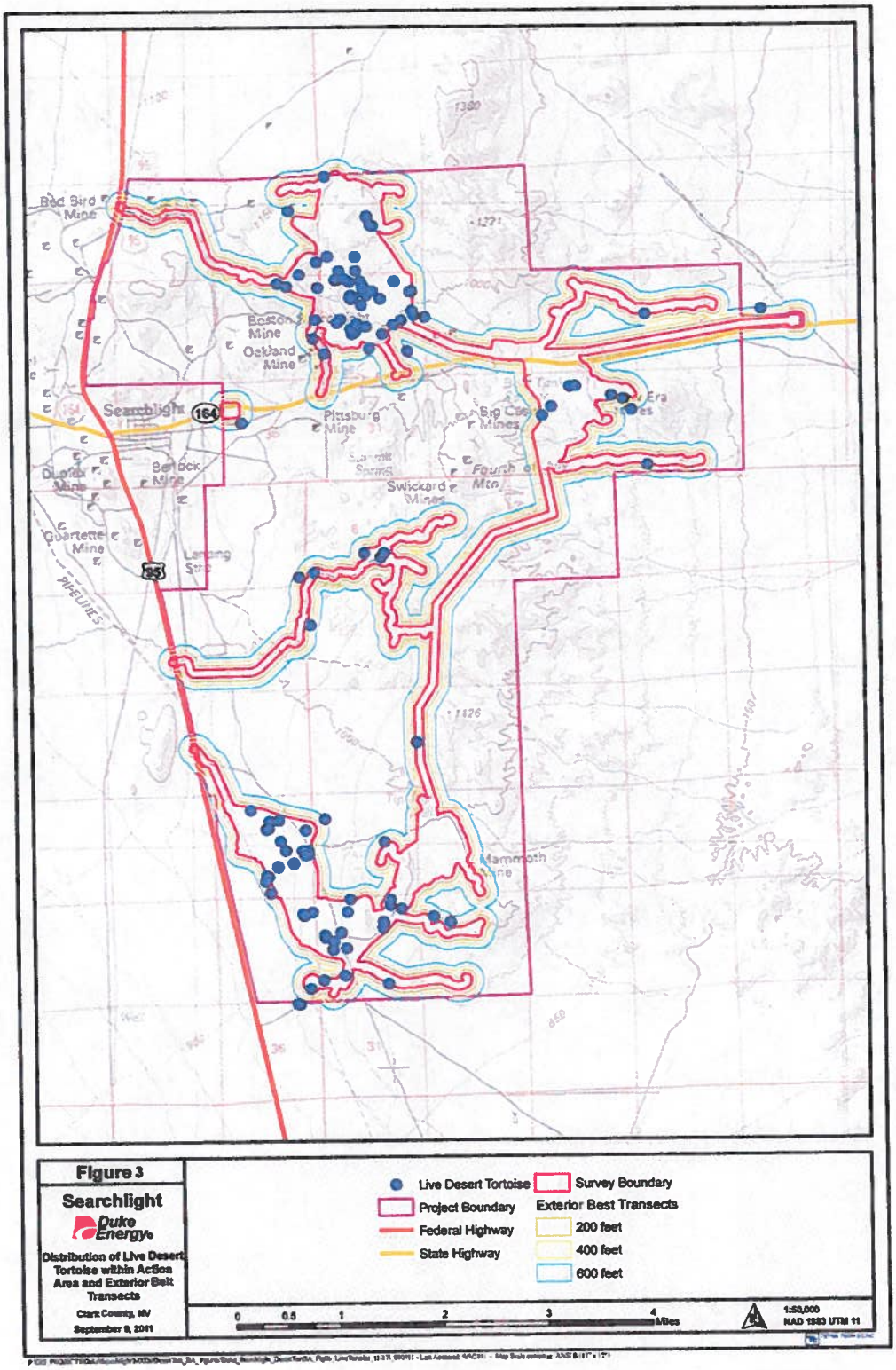


Figure 3. Locations of live Mojave desert tortoise detections on the Searchlight Wind Energy Project, Clark County, Nevada.

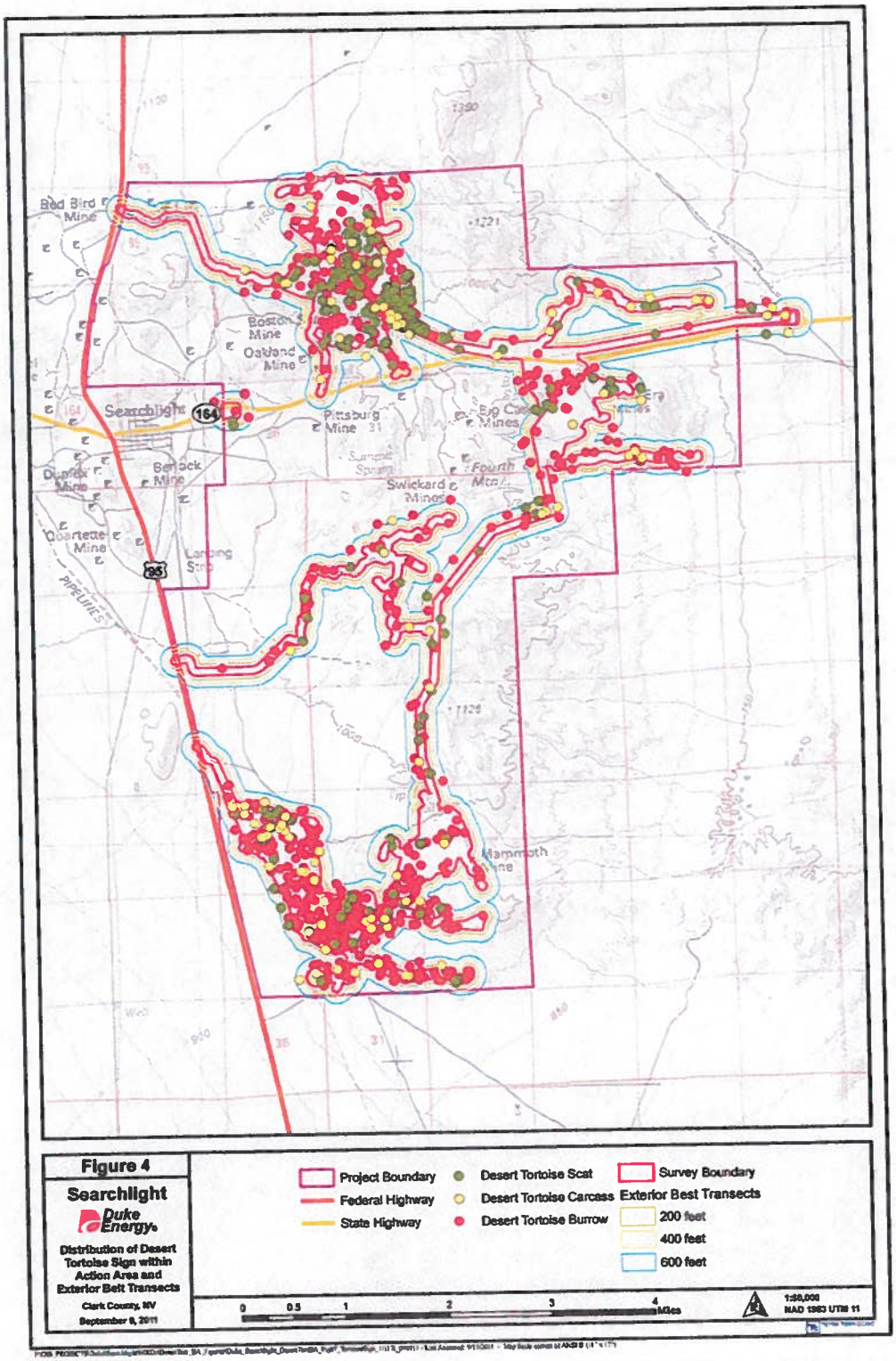


Figure 4. Locations of Mojave desert tortoise sign detected on the Searchlight Wind Energy Project, Clark County, Nevada.

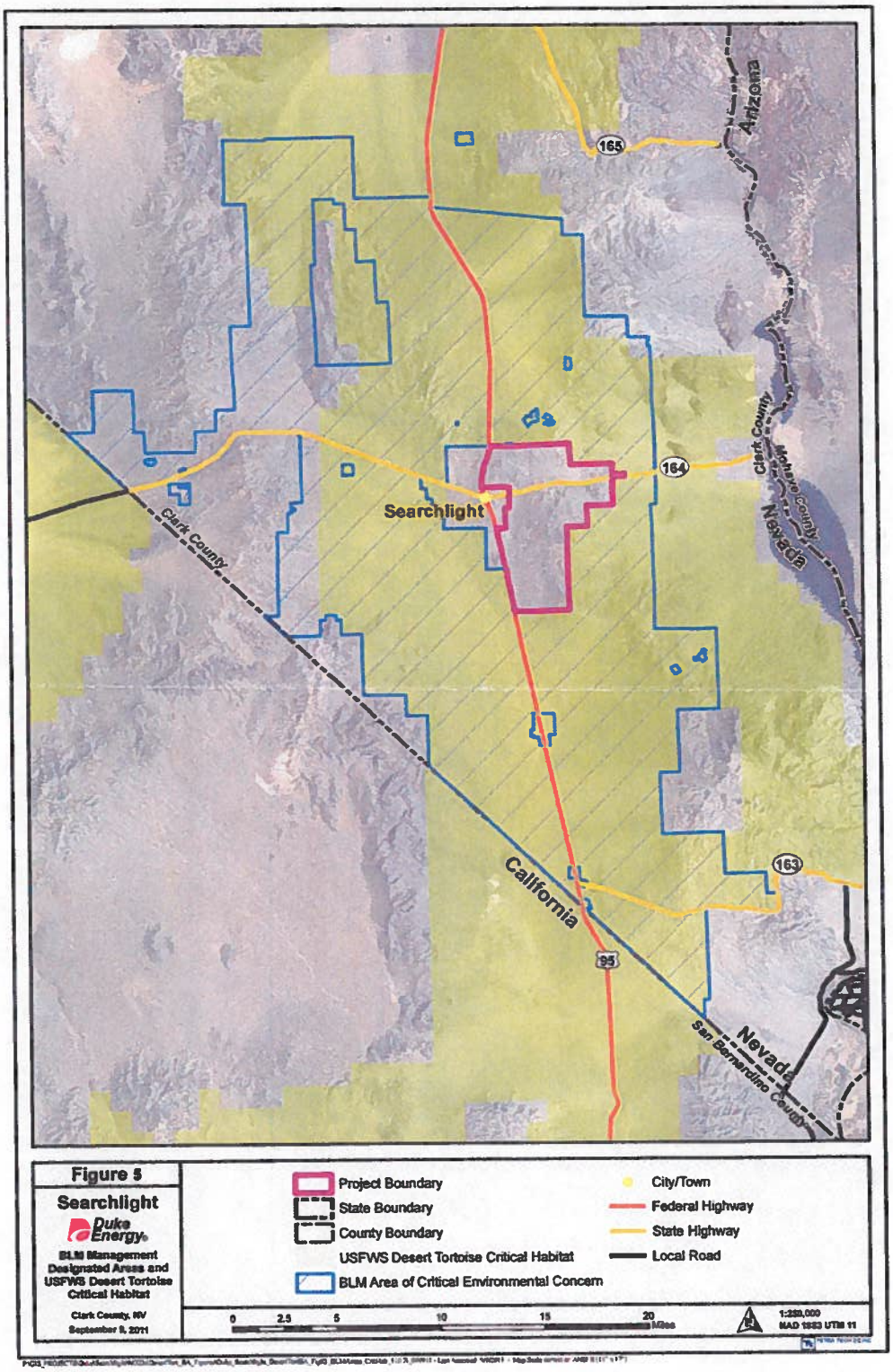


Figure 5. Designated desert tortoise critical habitat occurring near the Searchlight Wind Energy Project, Clark County, Nevada.

Appendix B-3: Terrestrial Wildlife Plan

Terrestrial Wildlife Plan

Searchlight Wind Project
Clark County, Nevada

Prepared For:

Searchlight Wind Farm, LLC

Prepared By:

Tetra Tech EC, Inc.
1750 SW Harbor Way, Suite 400
Portland, OR 97201

January 2012

TABLE OF CONTENTS

1 INTRODUCTION 1
1.1 Background Information 1
1.2 Project Description 1
1.3 Environmental Setting 2
1.4 Wind Energy and Terrestrial Wildlife 2
1.5 Regulatory Framework 3
1.5.1 Endangered Species Act 3
1.5.2 BLM Special Status Species 3
1.5.3 Nevada Codes 3
1.5.4 Clark County 4

2 MONITORING AND SURVEYING TO DATE 4
2.1 Terrestrial Wildlife 4
2.1.1 Banded Gila Monster 4
2.1.2 Common Chuckwalla 4
2.1.3 Desert Bighorn Sheep 4

3 RISK ASSESSMENT 5
3.1 Banded Gila Monster 5
3.2 Common Chuckwalla 5
3.3 Desert Bighorn Sheep 6
3.3.1 Vehicle Collisions 6
3.3.2 Disturbance 6
3.3.3 Habitat Loss 7

4 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES 7
4.1 GENERAL AVOIDANCE AND MINIZATION Measures 7
4.2 SPECIES SPECIFIC AVOIDANCE AND MINIMIZATION measures 9
4.2.1 Banded Gila Monster 9
4.2.2 Common Chuckwalla 10
4.2.3 Desert Bighorn Sheep 10
4.3 MITIGATION 11
4.3.1 Banded Gila Monster 11
4.3.2 Common Chuckwalla 11
4.3.3 Desert Bighorn Sheep 11

5 ADDITIONAL MONITORING 12
5.1 Incidental Wildlife Reporting System 12

6 LITERATURE CITED 12

Table 1. Approximate Acreages Impacted by Development of the Project 2
Table 2. Species Groups that would Benefit from Searchlight Wind Project Construction and Operation Avoidance and Minimization Measures 7

FIGURES

Figure 1. Project Vicinity Map
Figure 2. Project Layout
Figure 3. Observations of Chuckwalla and Sign
Figure 4. Observations of Bighorn Sheep and Sign and Potential Habitat

APPENDICES

Appendix A Terrestrial Wildlife Survey Report
Appendix B Incidental Wildlife Reporting Form

1 INTRODUCTION

1.1 BACKGROUND INFORMATION

Searchlight Wind Energy, LLC (Searchlight Wind; Applicant), a wholly-owned subsidiary of Duke Energy (Duke) has applied to the Bureau of Land Management (BLM) for a right-of-way (ROW) grant on public land to develop a wind energy project. Searchlight Wind is proposing to develop the Searchlight Wind Project (Project), an approximately 220 megawatt (MW) wind energy facility on a site located in southern Clark County, Nevada (Figure 1). The purpose of the project is to develop, own and operate a wind conversion facility that will contribute to Nevada's Renewable Portfolio Standards for electricity generation.

The United States Fish and Wildlife Service (USFWS) and the Nevada Department of Wildlife (NDOW) were contacted regarding ecological study needs for the project, with the BLM as the lead federal agency for all permitting. This document addresses the Gila monster, common chuckwalla, and desert big horn sheep. Impacts to the federally-listed desert tortoise are addressed in a biological assessment, and impacts to birds and bats are addressed in an avian and bat protection plan. This document summarizes the wildlife study reports completed for the Project (Section 2) and evaluates risk to wildlife in the context of the Project (Section 3). The plan then addresses proposed measures to avoid, minimize and mitigate adverse effects on wildlife resources from Project construction and operation (Section 4). In support of implementation for those measures, the plan provides a post-construction wildlife reporting system (Section 5).

1.2 PROJECT DESCRIPTION

The Project area for the Searchlight Wind Project lies to the north of the Newberry Mountain Range and south of the Eldorado Mountain Range in southern Clark County, Nevada. It is situated approximately 1.5 miles west of Lake Mead National Recreation Area, 60 miles southeast of Las Vegas and 40 miles north of Laughlin, Nevada. Specifically, the Project area for the Searchlight Wind Project encompasses lands approximately 0.5 miles northeast to 3 miles southeast of the town of Searchlight. The Project area encompasses 8,400 acres east of I-95 and is located on undeveloped BLM land with private holdings, mainly in the form of mine claims, within the Project boundary.

The Project has been planned to include 87 2.5 MW turbines (Figure 2). Turbine configuration takes advantage of local terrain and is located primarily along hill- and ridge-tops within the Project area, configured to maximize access to the wind resource in the area while minimizing impacts to wildlife. In addition to the turbines, the facility will include a system of Project access roads (to provide ingress, egress and traffic circulation), an electrical collection system, a substation, a transmission connection, an operations and maintenance (O&M) building and 5 permanent meteorological (met) towers (Figure 2). The total area affected by development will be up to approximately 382 acres (Table 1).

Table 1. Approximate Acreages Impacted by Development of the Project

Project Feature	Total Acres of New Habitat Disturbance (acres)	Approximate Temporary Construction Disturbance (acres)[1/]	Approximate Permanent Construction Disturbance (acres)
Turbine pads	69.2	66	3.2
New and upgraded project roads and crane pads[2/]	253.0	111.4	141.6
Operations and maintenance facility	6.5	1.5	5.0
Equipment storage and construction laydown areas[3/]	28.3	28.3	0
Overhead transmission line right-of-way	16.5	16.5	0
Substations	7.0	5.0	2.0
Batch plant	1.0	1.0	0
Meteorological towers	0.01	0	0.01
Western's switching station	7	2.5	3.5
Total Estimated Impacts	**388.5**	**232.2**	**155.3**

1/ Temporary construction impacts are in addition to permanent impacts.
2/ Restoration of roadsides.
3/ Includes temporary office trailers and crane assembly areas.

1.3 ENVIRONMENTAL SETTING

The Project area is located in the Mojave Basin and Range ecoregion in extreme southern Nevada. Topographic dimensions of the Project area vary greatly with flats, washes, valleys, and steep mountains/hills present with elevations ranging from 2,240 to 4,327 feet above mean sea level. Caliche formations are present throughout the Project area with creosote bush scrub and Joshua tree woodland as the predominant plant communities. Topographical variation is highest in the northern portion of the Project area while the southwestern portion lies predominantly in the valley floor. Dry washes exist throughout the Project area.

1.4 WIND ENERGY AND TERRESTRIAL WILDLIFE

Wind energy provides a clean, renewable energy source that is in high demand. As wind power becomes more common, the need to address potential environmental impacts has increased. In general, the impact of a wind energy facility on terrestrial wildlife is expected to be similar to other large-scale development projects and would include both direct and indirect impacts. Direct impacts may include harassment, injury, and mortality during construction and maintenance activities (e.g. noise disturbance, collapsed burrows, vehicular collision with wildlife), while indirect impacts may include loss, fragmentation, and degradation of habitat during construction, and disturbance during construction and operation activities. These impacts can occur over both the short- and long-term, and may add to the cumulative impacts occurring within a particular region. Site-specific mitigation (through Project design and impact minimization measures), monitoring, and adaptive management are essential to ensure that wind energy can be developed while avoiding or minimizing adverse impacts to terrestrial wildlife. As currently recommended in the Draft USFWS Land-based Wind Energy Guidelines (2011a), Duke has performed a preliminary landscape-scale evaluation of the Project site (Tier 1), a broad characterization of the site (Tier 2), and site-specific pre-construction monitoring and risk assessments (Tier 3) in order to minimize negative impacts to wildlife.

1.5 REGULATORY FRAMEWORK

Terrestrial wildlife occurring in the vicinity of the Project area include four species receiving state and federal protection, namely desert tortoise *(Gopherus agassizil)*, banded Gila monster (*Heloderma suspectum*), common chuckwalla (*Sauromalus ater*), and desert bighorn sheep (*Ovis canadensis nelsoni*). The regulations associated with these species are detailed below.

1.5.1 Endangered Species Act

On April 2, 1990, the U.S. Fish and Wildlife Service (USFWS) listed the Mojave population of the desert tortoise to be a threatened species pursuant to the Endangered Species Act of 1973, as amended (55 FR 12178 12191). The Desert Tortoise (Mojave Population) Recovery Plan was released in June of 1994 (USFWS 1994) and was later revised (USFWS 2011b). The Recovery Plan identifies six evolutionarily significant units of the desert tortoise in the Mojave Desert region and outlines 4.1 million acres of designated critical habitat (USFWS 2011b). This designation includes primarily federal lands in southwestern Utah, northwestern Arizona, southern Nevada, and southern California. In Nevada, the critical habitat designation totals 1,221,341 acres in Clark and Lincoln Counties. Of this amount, 988,600 acres are on BLM-managed lands.

The desert tortoise is listed by the BLM as a Nevada Special Status Species that is federally listed as Threatened. As a result, a Biological Assessment has been developed for the desert tortoise for this Project. Details of Project risk to the desert tortoise, conservation measures, and mitigation options will be fully detailed within the Biological Opinion.

1.5.2 BLM Special Status Species

In Nevada, the BLM has implemented policies for special-status species found on BLM-managed lands. BLM's list of special-status species includes the following three categories: (1) federally listed as Threatened or Endangered, Proposed and Candidate species; (2) Nevada State Protected species; and (3) Nevada BLM Sensitive Species. BLM Sensitive Species are species for which population viability is a concern; they are managed by the BLM to "ensure that actions authorized, funded, or carried out do not contribute to the need for the species to become listed;" these species are afforded the same level of protection as federal Candidate species.

The banded Gila monster, common chuckwalla and desert bighorn sheep are species occurring in the Project area listed as Nevada BLM Sensitive Species.

1.5.3 Nevada Codes

Under Nevada law and regulation, any wildlife receiving the distinction of fully protected species may not be captured, removed or destroyed at any time except with special permit as provided under Nevada Revised Statutes (NRS) 503.584-503.589 and Nevada Administrative Code (NAC) 503.093. Section 503.093 indicates that protected species include wildlife species that are classified as sensitive, threatened or endangered by NDOW and that an "appropriate license, permit or authorization required to hunt, take or possess protected wildlife; (NRS 501.105**,** 501.181)" is necessary. Both the desert tortoise and banded Gila monster are considered protected under NAC 503.080 and NRS 501, with the desert tortoise further classified as Federally Threatened. Additionally, under Nevada Revised Statutes (501.376), it is

unlawful to intentionally take, kill or possess large game species such as bighorn sheep without appropriate authorization.

The desert tortoise, banded Gila monster, common chuckwalla, and desert bighorn sheep (or Nelson bighorn sheep) are considered Species of Conservation Priority under the Nevada Wildlife Action Plan (Abele *et al.* 2006), which is being implemented by NDOW.

1.5.4 Clark County

The desert tortoise is a covered species under the Clark County Multiple Species Habitat Conservation Plan (MSHCP; RECON 2000). The banded Gila monster is a high priority evaluation species.

2 MONITORING AND SURVEYING TO DATE

2.1 TERRESTRIAL WILDLIFE

Pre-construction presence/absence surveys within the Project area were conducted for banded Gila monster, common chuckwalla, and desert bighorn sheep in order to determine the use and distribution of these species (if present) within the Project area (Appendix A). Surveys were conducted from April 3 – May 16, 2011 within a survey corridor corresponding to areas of potential development within the Project area, as well as within exterior belt transects which extended various distances outward from the corridor (200, 400, 600 feet). Belt transect-oriented visual searches for presence or sign (e.g., scat or carcasses) of the focal species were performed within the survey corridor, with sightings documented with handheld Global Positioning System (GPS) units and photographs. Observations made outside of the either the survey corridor or survey time period, or both, were recorded as incidental observations. An additional desktop analysis was performed to identify and evaluate areas of suitable desert bighorn sheep habitat within the Project area due to their relatively larger home range.

2.1.1 Banded Gila Monster

No banded Gila monsters were observed directly, nor was evidence of their presence detected. However, Gila monsters tend to be secretive and spend greater than 95 percent of their lives underground (NDOW 2007). These behaviors make this species extremely difficult to observe.

2.1.2 Common Chuckwalla

Twenty live common chuckwalla and 54 observations of scat were documented during surveys (Figure 3).

2.1.3 Desert Bighorn Sheep

One observation of four desert bighorn sheep, divided between two groups, was documented. Additionally, one observation of unidentified ungulate scat presumed to be desert bighorn sheep scat (Figure 4) was documented.

3 RISK ASSESSMENT

Potential impacts to terrestrial wildlife from the Project include direct and indirect mortality (e.g. vehicular collisions, destruction of nest sites, increased predation), disturbance from construction and operation activities, and habitat loss and fragmentation. No publicly available studies have investigated the potential impacts of wind energy development on banded Gila monster, common chuckwalla, or desert bighorn sheep. Thus, assessments of risk are based primarily on results of site-specific surveys and inferences from studies of similar species or other forms of energy development, as available.

3.1 BANDED GILA MONSTER

The primary risk to Gila monsters is collisions with vehicles and habitat loss. Few, if any, collisions with vehicles would be expected, and disturbance should be minimal because the crepuscular activity of the Gila monster is unlikely to coincide with the timing of construction and operations activity. Both construction and operations activity will take place during daylight working hours. The majority vehicular use will fall outside the daily active periods for this species. During seasonal periods of high activity (April-June), biological monitors necessary for desert tortoise monitoring will also monitor for Gila monster.

Preferential habitat includes washes, rocky crevices, and creosote scrub brush lands, all present within the Project area, thus habitat loss will likely occur during construction. The total new habitat disturbance due to the Project is limited to 388.5 acres of disturbance, of which 153.5 would be permanent (Table 1) with much of the development occurring outside of washes and limited development occurring within the areas of lower elevation creosote scrub. Thus, only a small amount of viable Gila monster habitat would be expected to be disturbed or lost. Impacts of the Project to Gila monsters are expected to be low due to a lack of detections of Gila monster or Gila monster sign within the Project area, although preferred habitat is present, and absence of the species cannot be confirmed through the survey methods used (Appendix A). Further, the general avoidance and minimization measures described in section 4.1, and the Gila monster specific avoidance and minimization measures described in section 4.2 will reduce impacts.

3.2 COMMON CHUCKWALLA

The primary risk to common chuckwallas is collisions with vehicles, disturbance during construction, and habitat loss. Limited chuckwalla habitat exists within range of proposed roads, suggesting low risk for collisions with construction and maintenance vehicles. Although materials and equipment left behind following construction and maintenance activities may attract predators such as common ravens and coyotes, the implementation of a trash abatement plan and other Best Management Practices (BMPs) will limit draws for opportunistic predators. Surface disturbance in July and August may impact chuckwalla nests, but likely nesting areas will be visually surveyed by biological monitors during desert tortoise surveys, marked as sensitive areas prior to disturbance and avoided to the extent practicable. Observations of chuckwalla and sign were spatially clustered and largely limited to habitat in the northeast section of the Project, minimizing both contact with Project features and disturbance due to Project activities (Appendix A). Lastly, habitat loss will be minimal because a limited amount of chuckwalla habitat is present within the Project footprint. Although the Project is sited within the core of the common chuckwalla range, and numerous detections of chuckwalla and sign were

made within the Project (Figure 3), impacts due to the Project are expected to be low. Further, the general avoidance and minimization measures described in section 4.1, and the common chuckwalla specific avoidance and minimization measures described in section 4.2 will reduce impacts.

3.3 DESERT BIGHORN SHEEP

The primary risk to desert bighorn sheep is collisions with vehicles, disturbance during construction and operation, and habitat loss.

3.3.1 Vehicle Collisions

Roads within the Project area pose risk of collision with project and public vehicles (if open to public access) to desert bighorn sheep. A total of 2.7 miles of new roads and 0.3 miles of upgraded existing roads are currently proposed within desert bighorn sheep habitat identified within and bordering the Project area (Figure 4). However, additional roads occur in areas that are not identified as bighorn sheep habitat but which individuals might cross when moving between habitat areas. The general location of the project area is situated within a movement corridor utilized by desert bighorn sheep passing between the Eldorado Mountains/Ireteba Peaks and Newberry Mountains from late-October to mid-May (Appendix A, Pat Cummings, pers. comm.). Limited suitable habitat within the Project area offers rams potential escape terrain while utilizing this corridor. The vicinity of the Project area supports low-density herds of desert bighorn sheep, and there were few observations of desert bighorn sheep and scat during surveys (Appendix A), suggesting low rates of use of the Project area by this species. The low rates of use and relatively small amount of roads (all dead-end) proposed in suitable habitat indicate that risk of mortality due to collision with vehicles would be low during both construction and operation. Additionally, construction and maintenance traffic would be minimized and 25 mph vehicular speed limits to minimize collision risk. Further, the general avoidance and minimization measures described in section 4.1, and the desert bighorn sheep specific avoidance and minimization measures described in section 4.2 will reduce impacts.

3.3.2 Disturbance

Disturbance is expected to be the most serious of the potential impacts of the Project to desert bighorn sheep. There is evidence that human disturbance can alter habitat use and activity patterns of bighorn sheep (e.g. Miller and Smith 1985, King and Workman 1986, Etchberger et al. 1989, Papouchis et al 2000, Thompson et al. 2007), although the response to disturbance varies among individuals and with degree of previous exposure to human contact (Leslie and Douglas 1980). Given the limited use of the Project area by desert bighorn sheep, disturbance will likely be limited to rams passing through the area from late October to mid-May, and may cause disruption of the movement of sheep between Eldorado and Newberry Mountains during construction. However, evidence of habituation to human activities such as hiking (e.g. Hicks and Elder 1979), roads (Horesji 1976 cited in Thompson et al. 2007), construction (Leslie and Douglas 1980, Campbell and Remington 1981) and aircraft (Krausman et al. 1998), suggest that sheep will habituate to the Project during operation, and thus would be expected to incur a low level of disturbance impact in the years subsequent to construction of the Project, and population connectivity would be maintained. Further, the general avoidance and minimization measures described in section 4.1, and the desert bighorn

sheep specific avoidance and minimization measures described in section 4.2 will reduce impacts.

3.3.3 Habitat Loss

Construction of roads and turbines would result in the loss of a relatively small amount of desert bighorn sheep habitat. Approximately 416 acres of identified desert bighorn sheep habitat falls within the survey corridor, with little of this considered suitable escape terrain (Appendix A). The actual acres of habitat loss would be less than this value because the survey corridor was larger than the actual Project disturbance footprint (Table 1), and some of the habitat would be re-vegetated after construction is complete. Thus risk of desert bighorn sheep habitat loss due to the Project is expected to be low. Further, the general avoidance and minimization measures described in section 4.1, and the desert bighorn sheep specific avoidance and minimization measures described in section 4.2 will reduce impacts.

4 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

4.1 GENERAL AVOIDANCE AND MINIZATION MEASURES

Searchlight Wind and agency-proposed avoidance and minimization measures are outlined in the following sections and further documented in the draft environmental impact statement.

Road construction, placement of turbine foundations, and all clearing of vegetation will occur during daylight hours. The main access road will be improved by grading and graveling. Access roads and turbine locations within the main body of the wind project area will be cleared, and construction trailers will be placed on-site. During the construction period, heavy trucks, light trucks, and other construction equipment will regularly travel the main access road, with dispersed travel on interior access roads. Construction vehicle trips will be reduced by requiring all craft workers to park their personal vehicles at a central location in the project area. During the operational phase of the project, traffic volume will be minimal, consisting only of the routine trips by technicians to check and maintain equipment, as turbines are unlikely to be visited daily if operating correctly. All construction and operations personnel will be made aware of the seasonal periods of high activity for both the chuckwalla and the Gila monster through the Worker Environmental Awareness Program (WEAP). A summary of species likely to benefit from construction- and operations-related categories of mitigation measures is shown in Table 2.

Table 2. Species Groups that would Benefit from Searchlight Wind Project Construction and Operation Avoidance and Minimization Measures

Avoidance and Minimization Measures	Gila monster	Common chuckwalla	Bighorn sheep
Minimize disturbance impacts	X	X	X
Avoid attracting wildlife	X	X	
Trash abatement	X	X	
Speed limits	X	X	X
Worker environmental awareness	X	X	X
Minimize wildlife potential	X	X	X

Avoidance and Minimization Measures	Gila monster	Common chuckwalla	Bighorn sheep
Minimize erosion and runoff	X	X	
Invasive weed control	X	X	X

Minimize Disturbance Impacts:

- Develop construction corridors to account for both temporary and permanent impacts and restrict work to inside flagged areas. Use of construction corridors will reduce impacts to native vegetation.
- Soil from weed-free areas will be used for reclamation.
- Equipment and vehicle travel will be limited to existing roads or construction corridors during construction. Construction traffic, parking and laydown areas will occur within previously disturbed lands to the extent feasible.
- Any vegetation that is removed (not including cacti or yucca) will leave the underground roots of woody plants intact. The grubbing will skim the surface of the ground to crush or slice off the aboveground portions of vegetation, leaving the root crowns intact. This will allow for rapid regeneration of woody plant species.

Avoid Attracting Wildlife:

- Removal of rock piles post-construction.
- Maintain turbine pads so that erosion does not cause openings underneath transformer to become available habitat.
- On-site open water sources that serve as wildlife attractants will not be created or maintained.

Trash Abatement:

- All trash and food-related waste will be placed in self-closing containers and removed daily from site. This measure will reduce attraction of opportunistic predators to the project.

Speed Limits:

- Vehicular speed will be limited to 20 miles per hour, 15 mph during high activity seasons for desert tortoise (April-May and September-October), on all Project roads to reduce risk of collision with wildlife. Speed limits could be lowered during the sensitive period for the species in this plan if individuals are observed on Project roads.

Worker Environmental Awareness Program (WEAP):

- A site-specific worker environmental training program will be developed, updated and implemented throughout the construction of the Project.
- All employees and contractors working in the field will be required to attend environmental awareness training sessions prior to working on site. Training will include information regarding sensitive biological resources, restrictions, protection measures,

individual responsibilities associated with the Project, and the consequences of non-compliance.

- Rewards and fines will be used for individual adherence or lack of compliance to the training program.

Marking of Sensitive Areas:

- Sensitive habitat features include nesting locations of the species named in this plan. If areas with sensitive habitat features such as chuckwalla nests are encountered, these areas will be marked to highlight their location to construction crews in order to minimize disturbance in those areas. Areas with sensitive habitat features may include soft, well-drained soil with annual plant vegetation for forage (Brodie, et al. 2003). These areas are likely to be located where rocky mountain slopes come into contact with the beginning of the bajada.

Minimize Wildfire Potential:

- Fire prevention measures will be implemented during construction to minimize wildfire potential.

Minimize Erosion and Runoff:

- A Storm-water Pollution Prevention Plan will be developed to minimize erosion, storm-water runoff and transport of sediment and other contaminants.

Invasive Weed Control:

- A Weed Management Plan will be implemented during the construction of the Project.

4.2 SPECIES SPECIFIC AVOIDANCE AND MINIMIZATION MEASURES

4.2.1 Banded Gila Monster

In addition to the general avoidance and minimization measures in Section 4.1, measures specific to Gila monsters are provided below.

Construction Phase

- As part of the WEAP, construction site personnel will be given a packet, which includes NDOW's Gila Monster Status, Identification and Reporting Protocol for Observations (NDOW 2007). The packet will also contain information describing the distinguishing features of a banded Gila monster and instructions on distinguishing a banded Gila monster from chuckwallas and banded geckos, as well as information on the protection status of the species and the consequences of a potential bite.
- All sightings of banded Gila monster and circumstances under which it was encountered, will be immediately reported to NDOW using the Gila Monster Reporting Form (Appendix B). Gila Monsters found dead will be preserved in a freezer-safe container or plastic bag and delivered to NDOW as soon as is feasible. When handling dead Gila monsters,

hands shall be kept clear of the lizard's mouth to avoid a reflex-induced, painful and venomous bite.

- Upon finding a Gila monster, all construction activities will be halted in the immediate vicinity of the animal until the animal moves to safety of its own accord, undisturbed.

Operation Phase

- Gila monster encounter protocol, as described in the Design and Construction-Phase Mitigation Measures above will remain in effect for the life of the project.

4.2.2 Common Chuckwalla

In addition to the general avoidance and minimization measures in Section 4.1, measures specific to common chuckwallas are provided below.

Construction Phase

- During construction activities, qualified on-site biologists conducting desert tortoise monitoring will also monitor for chuckwalla and direct construction workers to allow the animal to move to safety of its own accord, undisturbed.
- If construction occurs during the nesting period, on-site desert tortoise monitors will investigate potential chuckwalla nesting habitat (sandy, well-drained soils) in July and August for signs of nests. These areas will be marked as sensitive areas and avoided to the extent practicable during construction to avoid disturbing eggs.

Operation Phase

- No operation phase measures specific to common chuckwalla are proposed.

4.2.3 Desert Bighorn Sheep

In addition to the general avoidance and minimization measures in Section 4.1, measures specific to desert bighorn sheep are provided below.

Construction Phase

- Appropriate fencing will be installed around guy wire anchor points of existing met towers.
- Upon finding bighorn sheep in the area proposed for construction, all construction activities will be halted in the immediate vicinity of the animal until the animal moves to safety of its own accord, undisturbed. If sheep do not move within two hours from areas proposed for construction, Pat Cummings at NDOW (702-486-5127 x3212) will be contacted to determine the appropriate measures to encourage sheep to move from the construction area.

Operation Phase

- Maintenance activities during the peak migration period of rams within the Project area (late-October – mid-May) will be minimized to the extent practicable to reduce risk of collision. If maintenance activities occur, vehicular speed will be reduced below the standard 25 mph limit to 10 mph. This speed reduction serves as road clearing to minimize risk of collision.
- Upon finding bighorn sheep in the area proposed for maintenance, all maintenance activities will be halted in the immediate vicinity of the animal until the animal moves to safety of its own accord, undisturbed. If sheep do not move within two hours from areas proposed for maintenance, Pat Cummings at NDOW (702-486-5127 x3212) will be contacted to determine if the maintenance activities can occur with sheep in the area. It is expected that sheep will habituate during operation of the Project and maintenance will occur in the presence of bighorn sheep.
- Observations of desert bighorn sheep will be reported using the Incidental Wildlife Reporting System for the life of the Project.

4.3 MITIGATION

Although the impacts to species will be avoided and minimized to the extent practicable through measures listed in section 4.1 and 4.2, some limited impacts might occur. To account for these impacts, Searchlight Wind will provide mitigation.

4.3.1 Banded Gila Monster

Searchlight Wind will contribute $5,000 to the Gila Monster Fund. The contribution will be used for mitigating Project impacts to this special status lizard. Contributions to the Gila Monster Fund will provide support dedicated to applied management investigations and actions facilitating high priority conservation needs for the Gila monster in Nevada.

4.3.2 Common Chuckwalla

None proposed.

4.3.3 Desert Bighorn Sheep

Searchlight Wind will contribute $5,000 to a Desert Bighorn Sheep Wildlife Research Fund (Research Fund). The Research Fund will be dedicated to funding applied management efforts addressing conservation challenges for bighorn sheep populations which are facing rapid, regional landscape level changes. These investigative efforts are necessary for developing and implementing regional management strategies in Southern Nevada for ensuring the long-term viability of regional desert bighorn sheep populations. The $5,000 contribution will assist in funding research and mitigation for this and other projects in the area. Initially, money from the Research Fund will contribute to efforts addressing management questions about bighorn sheep populations utilizing the El Dorado mountain migration corridor relative to the development of the existing landscape.

Searchlight Wind will fund the rental of one helicopter (no more than 6 hours) for survey purposes, at the soonest appropriate seasonal time interval after the commencement of implementation of the Project to assist with baseline movement studies of area herds. Instead of implementation of this measure, NDOW may choose to have Duke pay the equivalent amount of money used for the measure into the Research Fund. If a helicopter is funded for survey

purposes, NDOW will provide Duke the results of the survey within 4 weeks to address the movement of sheep through or in the vicinity of the project area.

5 ADDITIONAL MONITORING

5.1 INCIDENTAL WILDLIFE REPORTING SYSTEM

In addition to desert tortoise monitoring as determined in the biological opinion, Searchlight Wind will implement an Incidental Wildlife Report System (IWRS) that will be executed by site personnel for the life of the project. The IWRS has three main functions:

- To provide a means of recording and reporting information on incidental observations of banded Gila monster and desert bighorn sheep within the Project;
- To keep site personnel mindful of wildlife interactions; and

  To provide a standard set of instructions for Project operations and maintenance personnel to follow in response to wildlife observations associated with the Project.

The common chuckwalla is excluded from the IWRS because of its non-descript features, the likelihood that it will be confused with other lizards,

This program will be led by the site manager. Site personnel will be trained to follow the IWRS procedures and complete the appropriate reporting forms. Materials identifying sensitive species will be provided to the site staff. The IWRS will include Incidental Wildlife Reporting Forms (Appendix B) for site personnel to record incidental observations of banded Gila monster and desert bighorn sheep during routine site activities, and training will be provided as to how to report an incidental observation using the forms.

If a banded Gila monster (live or injured) is observed during construction or operation activities, site personnel will follow NDOW's Gila Monster Status, Identification and Reporting Protocol for Observations (2007). This includes completion of the Gila Monster Reporting Form (Appendix B) which was developed to comply with NDOW's reporting protocol.

If a desert bighorn sheep (live or injured due to Project activity) is observed during construction or operation activities, the Incidental Wildlife Reporting Form (Appendix B) will be completed and photos taken by site personnel and submitted to the site manager at the end of the day. If the individual is injured, and the injury is thought to be a result of the Project, the site manager will contact Pat Cummings at NDOW (702-486-5127 x3212).

Monitoring for wildlife mortalities will be associated with post-construction mortality monitoring studies. These studies will be addressed in the Searchlight Wind Energy Project Avian and Bat Protection Plan.

6 LITERATURE CITED

Abele, S., J. Bair, D.E. McIvor, L.A. Neel, R.J. Phoenix, A.E. Shaul, and J.C. Schoberg. 2006. Nevada Wildlife Action Plan. Prepared for the Nevada Department of Wildlife by the Wildlife Action Plan Team. Reno, Nevada.

Brodie, E.D., T. Edwards, P. Ustach. 2003 Status of Distribution, Populations, and Habitat Relationships of the Common Chuckwalla. Submitted to: Division of Wildlife, Department of Conservation and Natural Resources, State of Nevada. Available online at

http://www.clarkcountynv.gov/Depts/dcp/Documents/Library/other%20reports/collab/ChuckWallaReport030703.pdf accessed 06/12/12

Campbell, B. and R. Remington. 1981. Influence of Construction Activities on Water-Use Patterns of Desert Bighorn Sheep. Wildlife Society Bulletin 9:63-65.

Cummings, Pat. Biologist with Nevada Department of Wildlife. Email communication on February 8, 2011.

Desert Tortoise Council. 1994 (Revised 1999). *Guidelines for Handling Desert Tortoises During Construction Projects.* Edward L. LaRue, Jr., editor. Wrightwood, California.

Etchberger, R., P. Krausman, and R. Mazaika. 1989. Mountain sheep habitat characteristics in the Pusch Ridge Wilderness, Arizona. Journal of Wildlife Management 51: 912-915.

Hicks, L.L. and J.M. Elder. 1979. Human Disturbance of Sierra Nevada Bighorn Sheep. The Journal of Wildlife Management 43:909-915.

King, M. and G. Workman. 1986. Response of desert bighorn sheep to human harassment: management implications. Transactions 51 st North American Wildlife and Natural Resource Conference.

Krausman, P. R., Wallace, C. L. Hayes, and D.W. DeYoung. 1998. Effects of jet aircraft on mountain sheep. Journal of Wildlife Management 62:1246-1254.

Leslie, D.M., Jr. and C.L. Douglas. 1980. Human Disturbance at Water Sources of Desert Bighorn Sheep. Wildlife Society Bulletin 8:284-290.

Lovich, J.E., J. Ennen, S. Madrak, K. Meyer, C. Loughran, C. Bjurlin, T. Arundel, W. Turner, C. Jones, G. Groenendaal. 2011. Effects of Wind Energy Production on Growth, Demography, and Survivorship of a Desert Tortoise(Gopherus Agassizii) Population in Southern California with Comparison to Natural Populations. Herpetological Conservation and Biology 6(2): 161-174.

Miller, G., and E. L. Smith. 1985. Human activity in desert bighorn habitat: what disturbs sheep? Desert Bighorn Council Transactions 1985: 4-7

Nevada Department of Wildlife (NDOW). 2007. Gila Monster Status, Identification and Reporting Protocol for Observations. Nevada Department of Wildlife, Southern Region. Las Vegas, NV. November 1, 2007.

Papouchis, C., F. J. Singer, and W. Sloan. 2000. Effects of increasing recreational activity on desert bighorn sheep in Canyonlands National Park, Utah. Pages 364-391 in Singer, F. J. and M. A. Gudorf. Restoration of bighorn sheep metapopulations in and near 15 national parks: conservation of a severely fragmented species. USGS Open file. Report 99-102, Midcontinent Ecological Science Center, Fort Collins, CO.

RECON 2000. Clark County Multiple Species Habitat Conservation Plan and Environmental Impact Statement.

Thompson, D., K. Longshore and C. Lowrey. 2007. The impact of human disturbance on desert bighorn sheep (*Ovis canadensis nelsoni*) in the Wonderland of Rocks/Queen Mountain region of Joshua Tree National Park, California. Unpublished Final Report Submitted to Joshua Tree National Park.

U.S. Fish and Wildlife Service (USFWS). 1994. Desert tortoise (Mojave population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon.

USFWS. 2010. Preparing for Any Action that May Occur within the Range of the Mojave Desert Tortoise (*Gopherus agassizii*).

USFWS. 2011a. Draft U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines. September 13, 2011.

USFWS. 2011b. Revised recovery plan for the Mojave population of the desert tortoise (*Gopherus agassizii*). U.S. Fish and Wildlife Service, Pacific Southwest Region, Sacramento, California.

FIGURES

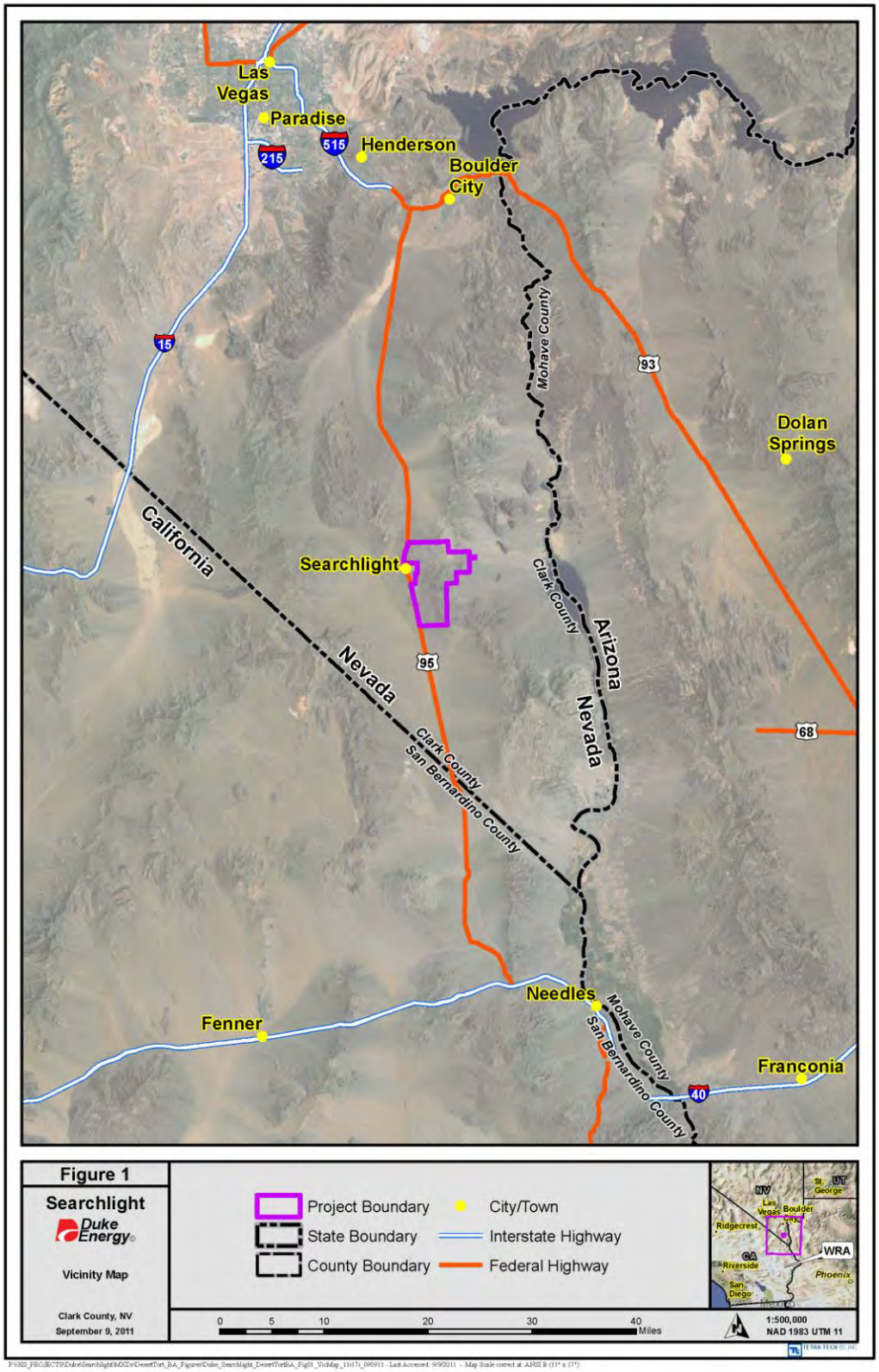


Figure 1. Project Vicinity Map

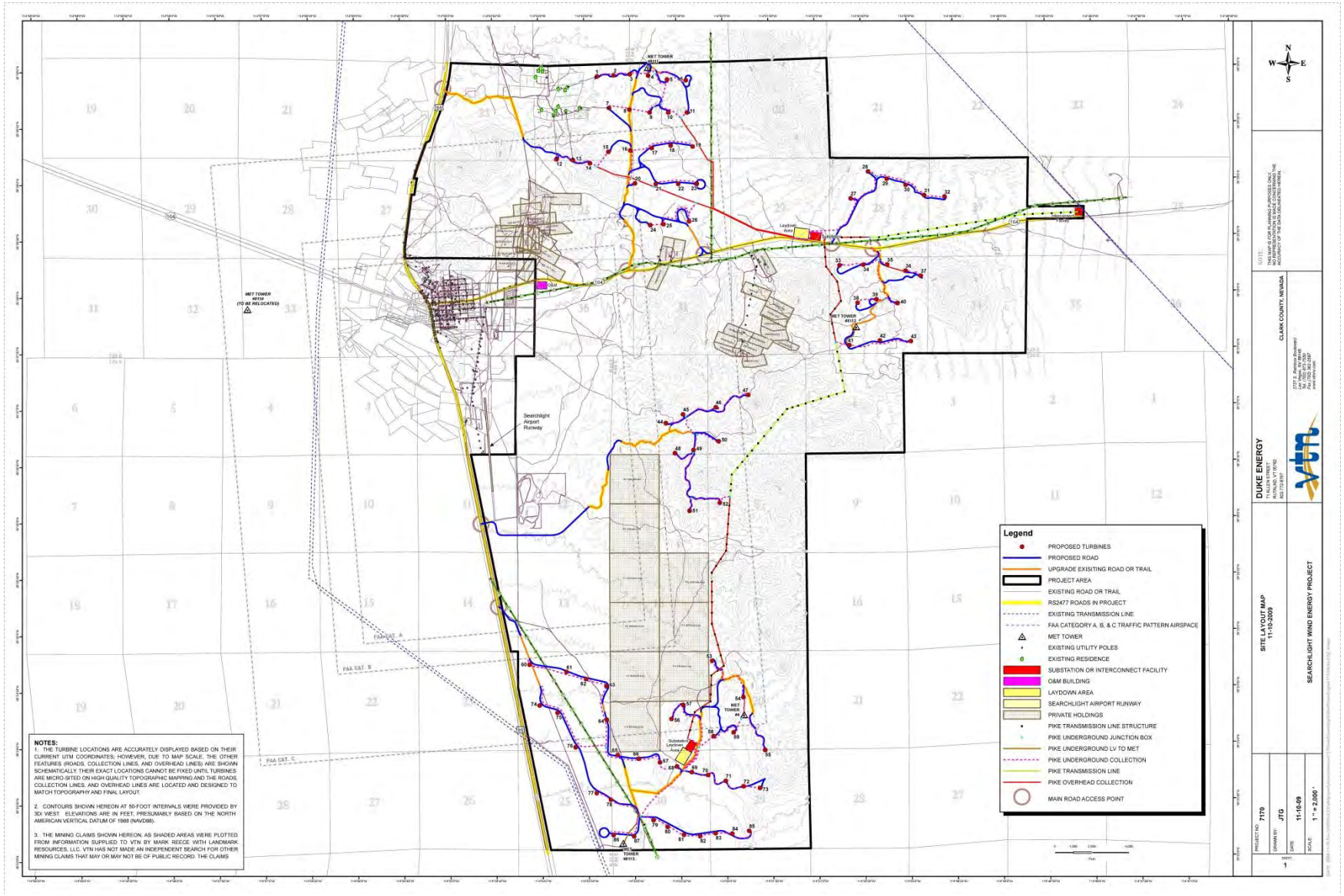


Figure 2. Project Layout

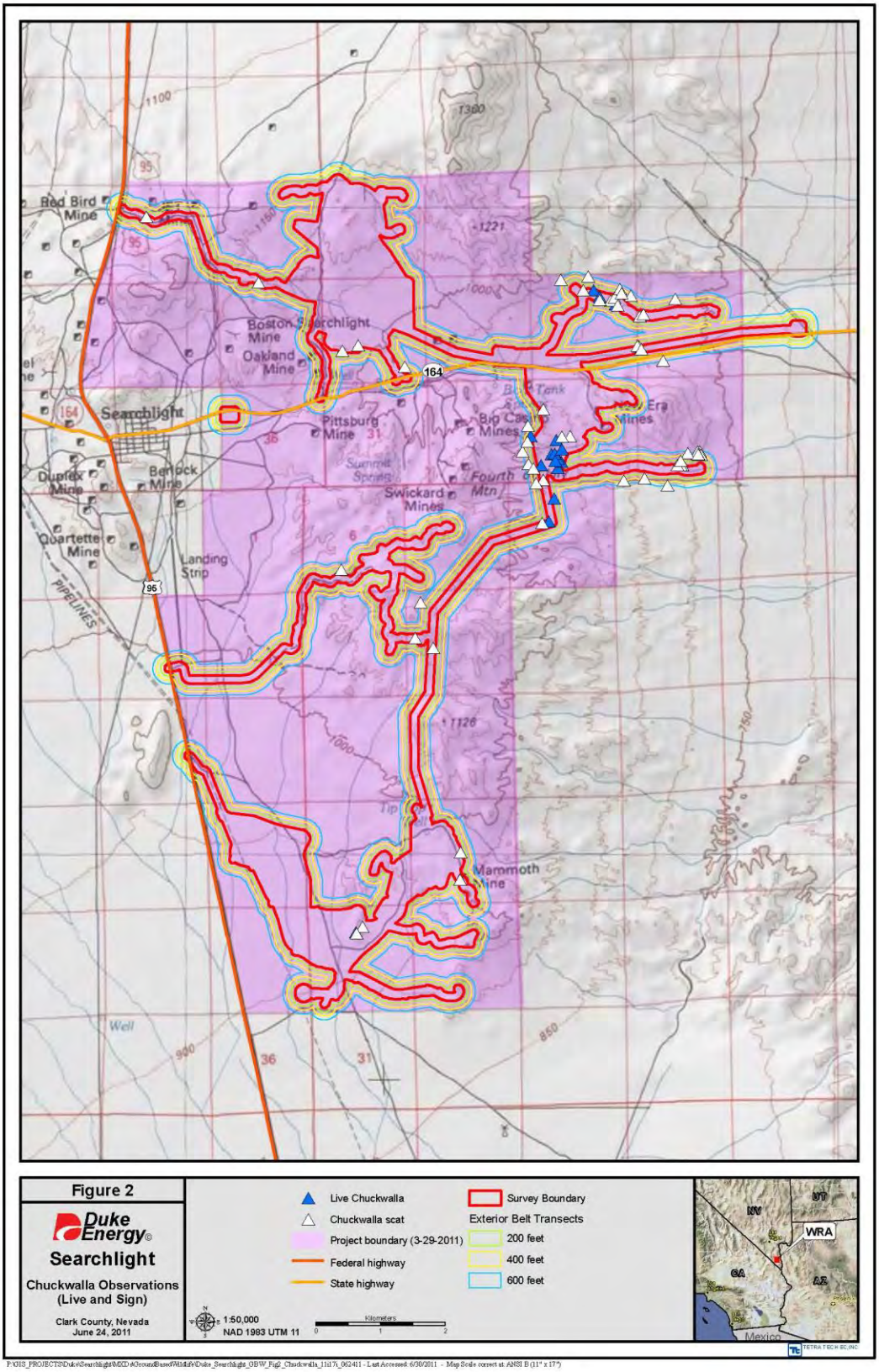


Figure 3. Observations of Chuckwalla and Sign

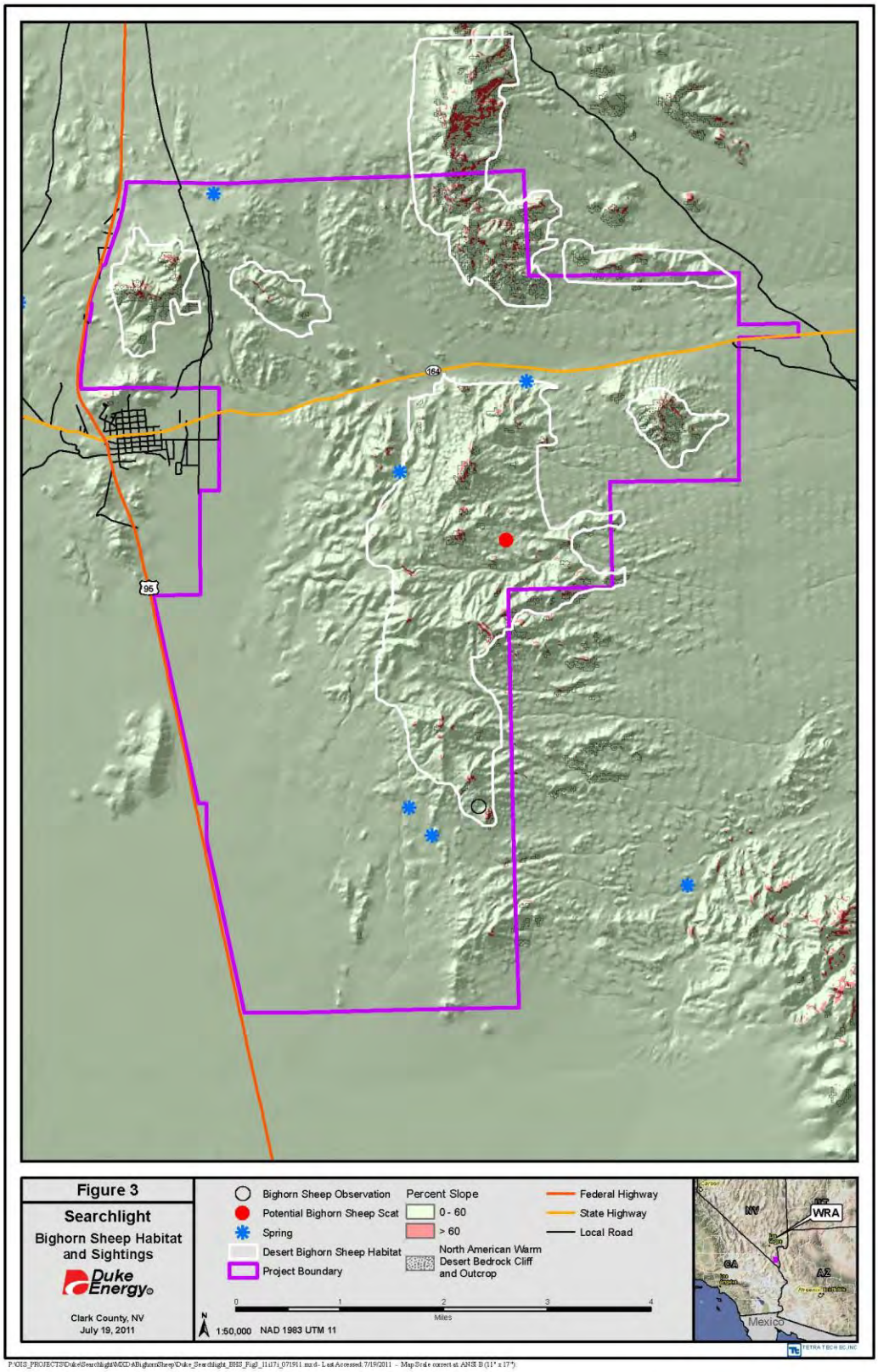


Figure 4. Observations of Bighorn Sheep and Sign and Potential Habitat

APPENDIX A

Terrestrial Wildlife Survey Report

APPENDIX B

Incidental Wildlife Reporting Forms

Gila Monster Reporting Form

OBSERVATION DETAILS		
Date: / /	Observer:	Phone:
Organization:	Email:	
Type of observation: Live and uninjured Injured Carcass (circle one)		
Person notified at NDOW:		Date and time:
Landscape context photo no.:	Overhead body shot photo no.:	
Overhead head close-up photo no.:		
Found in harm's way: Yes No (circle one)	Action taken: Yes No (circle one)	
Description of actions taken: (e.g., captured and detained, taken to vet, carcass taken to NDOW)		
Details or behavior of animal:		
IF CAPTURED		
Description of containment container:		
Time of capture:	Time NDOW staff arrived:	
Circumstances: Biological survey Construction Maintenance Other-explain (circle one)		
Notes:		
IF TAKEN TO VETERINARIAN		
Description of injuries:		
Name of veterinarian:		Phone:
Name of clinic:		
Address of clinic:		
IF CARCASS FOUND		
Carcass frozen: Yes No (circle one)	Date transported to NDOW:	
LOCATION OF OBSERVATION/CAPTURE LOCATION		
Nearest Landmark: Turbine Pole Milemarker Sign Other (circle one)		Details:
Distance from Landmark:	Direction from Landmark:	
UTM (NAD 83 Zone 11) N:	E:	
ENVIRONMENTAL CONDITION		
Habitat: Desert wash Cliff Spring Riparian area Desert scrub Road (circle one)		
Substrate: Scree Sand Gravel Rock Dirt Pavement (circle all that apply)		
Vegetation: Riparian Shrub-scrub Grasses (circle all that apply)		
Slope:_____°	Aspect: facing N NE E SE S SW W NW (circle one)	
COMMENTS:		

Form to be submitted to NDOW office, Southern Region, 4747 W. Vegas Drive, Las Vegas, NV 89108
Ph: 702 486-5127 Fax: 702 486-5133 Photos may be emailed to ctomlinson@ndow.org

Incidental Wildlife Reporting Form

OBSERVATION DETAILS		
Date: / /	Observer:	Phone:
Organization:	Email:	
Type of observation: Live Observation Wildlife Incident (circle one)		
Photo No.		
Who was notified, and when?		
Actions Taken (e.g., left in place, taken to rehab):		
Details or Behavior of Animal:		
WILDLIFE INCIDENT DETAILS		
Injured likely due to Project? Yes No (circle one)	Killed likely due to Project? Yes No (circle one)	
Description of incident:		
LOCATION OF OBSERVATION/INCIDENT		
Nearest Landmark: Turbine Pole Milemarker Sign Other (circle one)	Details:	
Distance from Landmark:	Direction from Landmark:	
UTM N:	E:	Datum:
Found: On Road Off Road (circle one)	Location Remarks:	
IDENTIFICATION		
Species: Chuckwalla Desert Bighorn Sheep Other-explain (circle one)		
Sex: Male Female Unknown (circle one)	Age: Adult Juvenile Unknown (circle one)	
Is Animal Tagged? Yes No (circle one)	Notes:	
ENVIRONMENTAL CONDITION		
Habitat: Desert wash Cliff Spring Riparian area Desert scrub Road (circle one)		
Substrate: Scree Sand Gravel Rock Dirt Pavement (circle all that apply)		
Vegetation: Riparian Shrub-scrub Grasses (circle all that apply)		
Slope:_____°	Aspect: facing N NE E SE S SW W NW (circle one)	
COMMENTS:		

Appendix B-4: Bird and Bat Conservation Strategy

Searchlight Wind Energy Project
Bird and Bat Conservation Strategy

Prepared for:

Duke Energy Renewables

550 South Tryon Street
Charlotte, North Carolina 28202

Prepared by:

Tetra Tech EC, Inc.
1750 SW Harbor Way, Suite 400
Portland, OR 97201

November 2012

TABLE OF CONTENTS

1.0 INTRODUCTION 6

1.1 Duke Energy Renewables' Corporate Policy 6
1.2 Statement of Purpose 6

2.0 BACKGROUND AND DESCRIPTION OF THE PROJECT 6

3.0 PROJECT-SPECIFIC REGULATORY REQUIREMENTS 11

3.1 Potential Endangered Species Act-Listed Wildlife Species 11
3.2 Migratory Bird Treaty Act 11
3.3 Bald and Golden Eagle Protection Act 12
3.4 Nevada State Codes 12

4.0 DECISION FRAMEWORK 12

5.0 PROJECT-SPECIFIC RESULTS FROM THE PRE-CONSTRUCTION EVALUATION PHASE AND PROJECT SITING 13

5.1 Site Characterization/Site Visit (Tier 1 and 2) 13
5.2 Baseline Wildlife or Site-Specific Field Studies (Tier 3) 13
5.2.1 Avian Use Surveys 14
5.2.2 Raptor Nest Surveys 17
5.2.3 Bat Acoustic Monitoring 18
5.2.4 Golden Eagle and Raptor Nest Surveys 25
5.2.5 Bald Eagle Winter Surveys 28
5.3 Risk Assessment (Tier 3) 28
5.3.1 Birds (Non-eagles) 29
5.3.2 Eagles 33
5.3.3 USFWS Fatality Model Design 34
5.3.4 Bats 39
5.4 Best Management Practices Implemented during Siting 43
5.4.1 Macro- and Micro-siting 44
5.4.2 Facility Design 44

6.0 SITE CONSTRUCTION 45

6.1 Best Management Practices Implemented During Construction 45
6.2 Environmental Manager during Construction 49

7.0 POST-CONSTRUCTIONAL/OPERATIONAL PHASE 49

7.1 Best Management Practices during Operation 49
7.2 Proposed Fatality Monitoring Study (Tier 4a) 51
7.2.1 Avian and Bat Fatality Study 51
7.3 Role of Technical Advisory Committee 52
7.4 Adaptive Management 53

7.4.1 Eagles 54
7.4.2 Other Birds 54
7.4.3 Bats 54
7.5 Other Proposed Post-Construction Studies (Tier 5) 56
7.5.1 Golden Eagle Nests 56
7.5.2 Bird Point Counts 56
7.5.3 Bat Acoustical Monitoring 56

8.0 REPORTING 56

8.1 Pre-Construction 56
8.2 Construction 57
8.3 Post-Construction 57

9.0 TRAINING OF PERSONNEL 57

9.1 New Employee Orientation Program 57
9.2 Annual Wildlife Training (BBCS-6) 57

10.0 Wildlife Incident Monitoring and Reporting System (WIMRS) 58

10.1 Wildlife Coordinator 58
10.2 Voluntary Operational Monitoring Reporting Criteria 59
10.3 Incidental Observations 59
10.4 Turbine Surveys 60
10.5 Environmental Services Inspections (BBCS-9) 60
10.6 Poster 60
10.7 Contact Information 60

11.0 INTERNAL AUDITING 61

12.0 PUBLIC OUTREACH AND EDUCATIONAL PLANS 61

13.0 KEY RESOURCES 62

14.0 REFERENCES 63

LIST OF FIGURES

Figure 1. Vicinity of Project 9

Figure 2. Proposed Project Layout 10

Figure 3. Avian Point Count Locations within the Project Area 16

Figure 4. Acoustic Monitoring Locations at the Searchlight Wind Energy Project 21

Figure 5. Active Raptor Nests Located During Aerial Surveys in 2009 and 2011 26

Figure 6. Inactive Raptor Nests Located During Aerial Surveys in 2009 and 2011 27

Figure 7. Mean Use by Eagles (Eagle Use/20 min; Pre-construction), Total Eagle Fatalities, and Eagle Fatalities/MW (Post-construction) at Wind Energy Projects in the Western U.S. Compared to Mean Use at the Searchlight Wind Energy Project 36

LIST OF TABLES

Table 1. Chronology of Agency Coordination for Searchlight Wind Energy Project..... 8

Table 2. Area Affected by Development 8

Table 3. Survey Efforts to Date at the Searchlight Wind Energy Project. 14

Table 4. Special Status Species Occurrence Within the Project Area.....17

Table 5. Raptor Nests Located During 2008 and 2009 Raptor Nest Surveys.....18

Table 6. Checklist and Status of Bats Detected Within the Searchlight Wind Energy Project Site, 2008-2010. 22

Table 7. Summary of Bat Activity from Acoustic Monitoring in April 2008 – April 2010.....24

Table 8. Raptor Nests Located During 2009 and 2011 Aerial Raptor Nest Surveys.....25

Table 9. Risk Categorization for Birds at the Searchlight Wind Energy Project

Table 10. Summary of Research or Policy-based Buffer Distances for Golden Eagles.....39

Table 11. Estimates of Mean Bat Fatalities Per Turbine and Per Megawatt at Wind Facilities in the Southwest or Arid Northwest 41

Table 12. Summary of Index of Activity (IA) from Acoustic Monitoring Results in Clark County, Nevada.....42

Table 13. Species that Would Benefit from Searchlight Wind Energy Project Avoidance and Minimization Measures During Project Planning and Design (with cross-reference to the Searchlight Wind Energy Project DEIS [BLM 2011]) 44

Table 14. Species that Would Benefit from Searchlight Wind Energy Project Avoidance and Minimization Measures During Construction (with cross-reference to the Searchlight Wind Energy Project DEIS [BLM 2011]) 45

Table 15. Species that Would Benefit from Searchlight Wind Energy Project Avoidance and Minimization Measures During Operations (with cross-reference to the Searchlight Wind Energy Project DEIS [BLM 2011]) 50

Table 16. Summary of Advanced Conservation Measures using a Step-wise Approach: to be implemented when eagle take occurs…….……..54

LIST OF APPENDICES

Appendix A. Site-Specific Pre-Construction Data

Appendix B. Fatality Monitoring Protocol

Appendix C. Report Form

Appendix D. Poster

Appendix E. Flowchart

1.0 INTRODUCTION

1.1 Duke Energy Renewables' Corporate Policy

Duke Energy Renewables and its subsidiary companies, including Searchlight Wind Energy LLC, are committed to siting, constructing, operating, and decommissioning their facilities in an environmentally responsible and sustainable manner. This environmental responsibility includes conserving and minimizing impacts to natural resources, including avian and bat species and the habitats they use. This Bird and Bat Conservation Strategy (BBCS) has been prepared according to Duke Energy Renewables programmatic approach and the USFWS wind energy land-based guidelines (USFWS 2012); and is considered to be a living document that will be updated periodically as new information becomes available and subsequent "Tiers" as outlined in the Wind Energy Guidelines are completed. This approach allows new information on risk, monitoring, or adaptive management to be incorporated so that the BBCS is accurate and uses the best information for decision making.

1.2 Statement of Purpose

While wind power projects or "wind farms," such as the Searchlight Wind Energy Project (Project), utilize a renewable-energy resource (wind), there are potential avian and bat impacts resulting from their construction and operation. The following site-specific Bird and Bat Conservation Strategy (BBCS) outlines various processes that Duke Energy Renewables has and/or will employ to: 1) comply with all state and federal avian and bat conservation and protection laws and regulations at the Project; 2) to ensure that any impacts to avian and bat resources are identified, quantified, and analyzed; and 3) implement various conservation, avoidance, minimization, and mitigation measures to address any impacts that result from the operation of the Project.

Federal laws and regulations protect the majority of birds found in and around the Project site. Interactions of birds with generating facilities (including wind turbines, transmission and distribution lines, substations, and other associated structures and equipment) are potentially harmful or fatal to birds. In addition, bird interactions can result in outages, which in turn could lead to grass and forest fires, raising concerns by employees, resource agencies, and the public.

Generating facilities also have the potential to impact bats. Significant impacts on bats may raise concerns by employees, resource agencies, and the public. Therefore impacts on birds, bats, and other wildlife that occur as a result of Duke Energy Renewable projects are important to Duke Energy from both a regulatory priority, and natural resource conservation priority.

2.0 BACKGROUND AND DESCRIPTION OF THE PROJECT

Searchlight Wind Energy, LLC (Searchlight Wind), a wholly-owned subsidiary of Duke Energy Renewables, received a temporary right-of-way (ROW) grant from the Bureau of Land Management (BLM) in July 2007 to develop the Searchlight Wind Energy Project on portions of

public land in southern Clark County, Nevada. The Project as currently proposed would be an approximately 220 megawatt (MW) wind energy facility (Figure 1). The purpose of the Project is to develop, own and operate a wind conversion facility that will contribute to Nevada's Renewable Portfolio Standards for electricity generation. Searchlight Wind Energy, LLC has contacted the BLM, Nevada Department of Wildlife (NDOW), and the USFWS regarding ecological study needs for the Project (Table 1).

The Project area lies to the north of the Newberry Mountain Range and south of the Eldorado Mountain Range in southern Clark County, Nevada (Figure 1). It is situated approximately 2.4 kilometers (km; 1.5 miles) west of Lake Mead National Recreation Area, 97 km (60 miles) southeast of Las Vegas and 64 km (40 miles) north of Laughlin, Nevada. Specifically, the Project area for the Searchlight Wind Energy Project encompasses lands approximately 0.8 km (0.5 miles) northeast to 4.8 km (3 miles) southeast of the town of Searchlight. The Project area encompasses 3,399 hectares (8,400 acres) east of I-95 and is located on undeveloped BLM land interspersed with private holdings, most of which are in the form of mine claims.

The Project area is located in the Mojave Basin and Range ecoregion in extreme southern Nevada (Bryce et al. 2003). Caliche formations are present throughout the Project area with creosote bush scrub and Joshua tree woodland as the predominant plant communities (Bryce et al. 2003). Topography varies greatly within the Project area, with flats, washes, valleys, and steep mountains/hills present at elevations ranging from 683 – 1319 m (2,240 to 4,327 feet) above mean sea level. Topographical variation is highest in the northern portion of the Project area while the southwestern portion lies predominantly within the valley floor. Dry washes exist throughout the Project area.

The Project has been planned to include 87 wind turbines generators (WTGs; Figure 2) with the anticipated turbine model being the Siemens 2.5 MW turbine which has a hub height of 80 meters (m; 262 feet) and 101 m (331 feet) rotor diameter, producing a rotor-swept area (RSA) occurring between 30 and 130 m (98 – 427 feet) above ground. Turbine configuration takes advantage of local terrain and is located primarily along hill- and ridge-tops within the Project area, configured to maximize access to the wind resource in the area while minimizing impacts to wildlife. In addition to the turbines, the facility will include access roads, an electrical collection system, a substation, a transmission connection, an operations and maintenance (O&M) building and 5 permanent meteorological (met) towers (Figure 2). The total area affected by development will be up to approximately 157 hectares (389 acres; Table 2).

Table 1. Chronology of Agency Coordination for Searchlight Wind Energy Project

Meeting	Type	Parties	Dates
Site visit and discussion of completed, ongoing, and future wildlife studies	In person	Duke, Tetra Tech, BLM, NDOW, O'Farrell Biological	November 5, 2008
Discussion of upcoming 2009 wildlife studies, protocols	Conference call	Duke, Tetra Tech, BLM, NDOW, URS, O'Farrell Biological	March 4, 2009
Discussion of 2009 wildlife study results, upcoming fall studies	In person	Duke, Tetra Tech, BLM, NDOW, URS, O'Farrell Biological	July 24, 2009
Discussion of results of wildlife monitoring, development of mitigation strategies	In person	Duke, Tetra Tech, USFWS, BLM, NDOW	Feb 7, 2011
Discussion of wildlife risk assessment, need for future monitoring, mitigation strategies	In person	Duke, Tetra Tech, USFWS, BLM, NDOW	July 26, 2011

Table 2. Area Affected by Development

Project Feature	Total Acres of New Habitat Disturbance (acres)	Approximate Temporary Construction Disturbance (acres)[1]	Approximate Permanent Construction Disturbance (acres)
Turbine pads	69.2	66	3.2
New and upgraded Project roads and crane pads[2]	253.0	111.4	141.6
Operations and maintenance facility	6.5	1.5	5.0
Equipment storage and construction laydown areas[3]	28.3	28.3	0
Overhead transmission line right-of-way	16.5	16.5	0
Substations	7.0	5.0	2.0
Batch plant	1.0	1.0	0
Meteorological towers	0.01	0	0.01
Western's switching station	7	2.5	3.5
Total Estimated Impacts	388.5	232.2	155.3

1Temporary construction impacts are in addition to permanent impacts.
2Restoration of roadsides.
3Includes temporary office trailers and crane assembly areas.

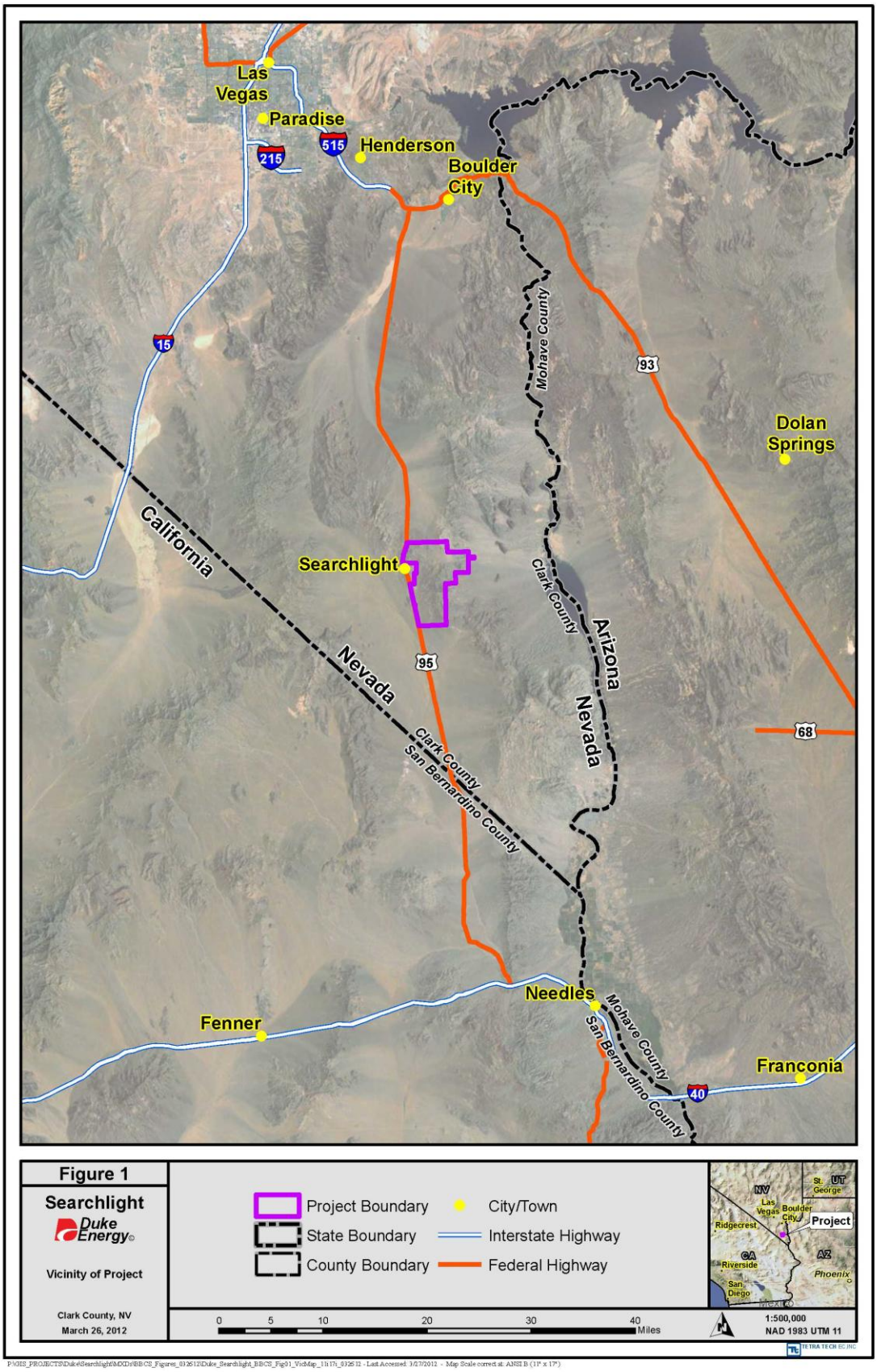


Figure 1. Vicinity of Project

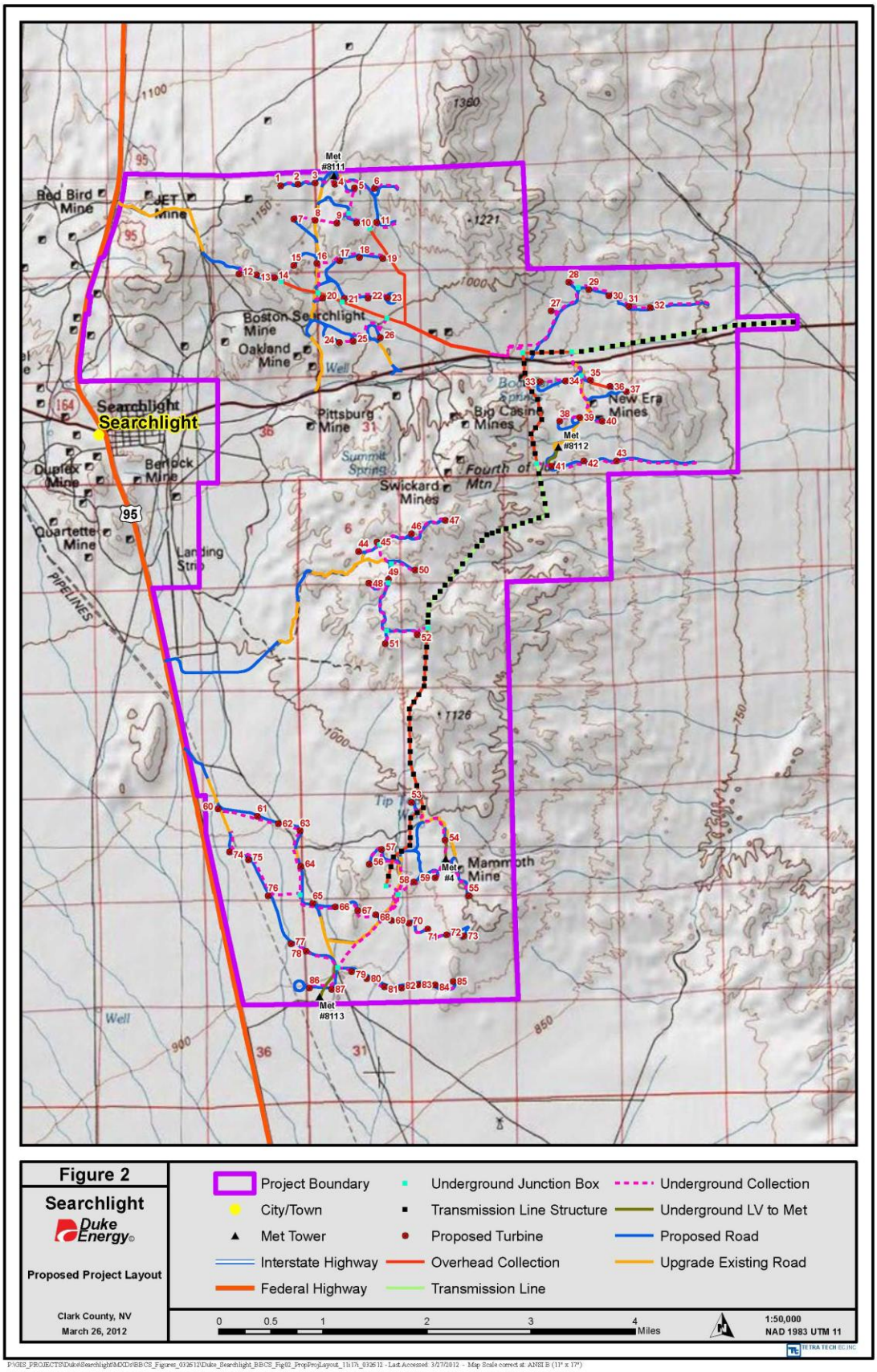


Figure 2. Proposed Project Layout

3.0 PROJECT-SPECIFIC REGULATORY REQUIREMENTS

Bird and bat species are protected under a variety of federal and state laws and regulations. Relative to the Project, these include the federal Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Bald and Golden Eagle Protection Act (BGEPA), BLM Instructional Memorandum 2010-156, and Nevada State Codes. These regulations are described in the following subsections.

3.1 Potential Endangered Species Act-Listed Wildlife Species

The purpose of the ESA is "to provide a means whereby the ecosystems upon which endangered and threatened species depend may be conserved, and to provide a program for the conservation of these species." Section 9 of the ESA prohibits "take" of threatened or endangered species, which includes killing, injuring, or harming a listed species or its habitat. Any activity that may result in the "incidental take" of a threatened or endangered species requires a permit issued from the USFWS under Sections 7 or 10 of the ESA. A review of the USFWS endangered, threatened, and candidate species for Nevada (USFWS 2012a) was conducted to identify species listed under the ESA that have the potential to occur in Clark County. Only two threatened or endangered species, Yuma clapper rail (*Rallus longirostris yumanensis* – federally endangered), and southwest willow flycatcher (*Empidonax traillii extimus* – federally endangered), have the potential to occur within the county (USFWS 2012a), and neither have been detected during Project field surveys (Section 5.2.1). The yellow-billed cuckoo is a candidate species with potential to occur in Clark County (USFWS 2012a), although no sightings have been made during field surveys. There are no federally listed bat species known to occur in Clark County (USFWS 2012a).

3.2 Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act (MBTA) it is unlawful to pursue, hunt, take, capture or kill; attempt to take, capture, or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any native migratory bird, part, nest, egg or product. Generally speaking, the MBTA protects all birds in the U.S., except gallinaceous birds (e.g., upland game birds, such as greater sage grouse *Centrocercus urophasianus*, wild turkey *Meleagris gallopavo*, and Hungarian partridge *Perdix perdix*) rock pigeons (*Columba liva*), Eurasian collared doves (*Streptopelia decaocto*), European starlings (*Sturnus vulgaris*), and house sparrows (*Passer domesticus*). The USFWS has established a permitting scheme for a variety of intentional activities, such as hunting and scientific research, but has not done so for the incidental take of migratory birds during otherwise lawful activities. As a result, there is no permitting framework that allows a company to protect itself from liability resulting from take at wind facilities; however, the USFWS does not usually take action under the MBTA if good faith efforts have been made to minimize impacts. As is the case with all wind energy projects, a variety of birds protected under the MBTA occur within and/or around the Project site.

3.3 Bald and Golden Eagle Protection Act

The BGEPA prohibits the take of any bald eagle (*Haliaeetus leucocephalus*) or golden eagle (*Aquila chrysaetos*), alive or dead, including any part, nest, or egg. "Take" is defined as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb" a bald or golden eagle. "Disturb" means to agitate or bother an eagle to a degree that causes, or is likely to cause (1) injury to an eagle; (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior; or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. Historically permits were not available under the BGEPA; however, a rule change in 50 CFR in November 2009 provided a mechanism to acquire permits for incidental take resulting from an otherwise lawful activity (§22.26).). Further, on April 12, 2012 the USFWS announced an Advanced Notice of Proposed Rulemakeing to potentially further amend the November 2009 regulations on the issuance of incidental take permits for eagles. The Draft Eagle Conservation Plan Guidance outlining the steps requested for permits was released in February 2011 (USFWS 2011a). This Guidance will likely change as a result of the rulemaking process. Golden eagles are known to occur in Clark County, and were rarely detected during field surveys (Section 5.2.1). No bald eagles have been sighted within the Project or vicinity during field surveys (Section 5.2.1

3.4 Nevada State Codes

Under Nevada law and regulation, any wildlife receiving the distinction of fully protected species may not be captured, removed or destroyed at any time except with special permit as provided under Nevada Revised Statutes (NRS) 503.584-503.589 and Nevada Administrative Code (NAC) 503.093. Section 503.093 indicates that protected species include wildlife species that are classified as sensitive, threatened or endangered by NDOW and that an "appropriate license, permit or authorization required to hunt, take or possess protected wildlife; (NRS 501.105**,** 501.181)" is necessary. A number of bird and bat species are protected under NRS 501; protected species with potential to occur within the Project are listed within Table 4 within Section 5.2.

4.0 DECISION FRAMEWORK

Duke Energy Renewables has adopted the decision framework and "tiered" or stepwise process, as currently recommended in the USFWS Land-based Wind Energy Guidelines (USFWS 2012). This tiered process that has been and is being implemented at the Project includes the following:

- Tier 1: Preliminary evaluation or screening of sites (landscape-level screening of possible project sites);
- Tier 2: Site characterization (broad characterization of one or more potential project sites);
- Tier 3: Field Studies to document site-specific wildlife conditions and predict project impacts (site-specific surveys and assessments at and around the proposed project site);
- Tier 4: Perform Post-construction fatality studies to assess and evaluate direct avian and bat fatalities resulting from turbine blade strikes; and

Tier 5: Other post-construction studies to assess and evaluate direct and indirect impacts to certain species of concern (i.e., greater sage-grouse and golden eagles), including habitat impacts, nest productivity, and other potential impacts.

This process and decision framework starts out general or broad and becomes more specific as information is gathered and the potential for avian and bat issues is better understood during each tier. Information gathered addressing the potential for avian and bat issues helps to answer questions and formulate additional questions that may need to be addressed in subsequent tiers. The stepwise or "tiered" approach ensures that sufficient data are collected on avian and bat species to enable Duke Energy Renewables to make informed decisions regarding the proposed project while ensuring that Duke Energy Renewables is complying with its corporate environmental policy.

These specific studies that have been or will be conducted at the Project will be used to inform and direct subsequent studies and surveys for the Project, as well as to identify the potential need for additional conservation measures. The following sections provide details of the tiered process being utilized for Project. They also identify avoidance and minimization measures that Duke Energy Renewables is planning or may implement based on the results of studies conducted to date and the anticipated impacts of those measures.

5.0 PROJECT-SPECIFIC RESULTS FROM THE PRE-CONSTRUCTION EVALUATION PHASE AND PROJECT SITING

5.1 Site Characterization/Site Visit (Tier 1 and 2)

A site visit was conducted by Tetra Tech in February 2 and 3, 2007 as part of an Environmental Assessment to evaluate the potential impacts caused by building six met towers for the proposed Searchlight Project (Tetra Tech 2007). Tetra Tech biologists reviewed existing information on biological resources in the Project area prior to conducting fieldwork. This review included federally-listed sensitive-species from lists provided by the USFWS office for Clark County, the BLM list of special status species, and the Nevada Natural Heritage Database (Tetra Tech 2007). Based upon the data review and results of the site visit, the findings indicated low potential for occurrence of special status and sensitive bird and bat species within the Project area.

5.2 Baseline Wildlife or Site-Specific Field Studies (Tier 3)

In response to concerns about potential impacts to avian and bat species resulting from the development of the Project, a variety of field studies and literature reviews were initiated (Table 3). The geographic coverage of each study may differ due to changes in the anticipated turbine layout at the time when the studies were initiated. Full details about methods, exact areas covered, and the locations and numbers of species detected during the surveys can be found within the original reports provided in Appendix A. Survey highlights are summarized below.

Table 3. Survey Efforts to Date at the Searchlight Wind Energy Project.

Study	Taxa	Dates conducted	Type of Survey	Reports
Avian use surveys	All birds	Fall 2007, spring 2008, fall – winter 2008-2009, spring 2009	Point counts	Tetra Tech 2008, 2010
Raptor nest surveys	Raptors	Spring 2008, spring 2009	Ground and aerial	Tetra Tech 2008, 2010
Bat acoustical monitoring at mines and met towers	Bats	April 2008 – April 2010	Passive acoustic	O'Farrell 2009a, 2010
Golden eagle and raptor nest surveys	Golden eagles, raptors	Spring 2011	Aerial	Tetra Tech 2011
Bald eagle winter use surveys	Bald eagles	December 2011 – January 2012	Ground	Tetra Tech 2012

5.2.1 Avian Use Surveys

Avian use surveys were conducted for 2 years within the Project area. Weekly surveys were conducted in fall 2007, spring 2008, fall 2008 through winter 2009, and spring 2009 for a total of 4 survey seasons (Tetra Tech 2008, 2010). Surveys in spring captured breeding birds and spring migrants, winter residents were documented during winter surveys, and fall migrants were sampled during fall surveys. Fixed-point count surveys (800-meter [m] radius) were conducted for 20 minutes (min) at points distributed throughout the Project, and covered 30.6 percent of the Project area (Figure 3).

A total of 4,299 birds were observed within the Project, including 3,954 birds of 64 species and 345 individual birds that could not be identified to species. Overall mean bird use within the Project was 5.97 birds/20 min and ranged from 0 to 44 birds/20 min. Variation in mean use occurred among the 4 survey periods, with fall surveys having a lower overall mean use than spring surveys (3.81 birds/20 min in fall 2007 and 4.08 birds/20 min in fall/winter 2008-2009 versus 7.21 birds/20 min in spring 2008 and 8.46 birds/20 min in spring 2009). More species were detected during the spring (42 in 2008, 45 in 2009) compared to fall and winter (33 in 2007, 30 in 2008-2009).

Songbirds had the highest mean use out of all species groups observed (4.44 birds/20 min). The species with the highest mean use were the black-throated sparrow (1.26 birds/20 min), house finch (0.33 birds/20 min), the ash-throated flycatcher (0.25 birds/20 min) and the horned lark (0.24 birds/20 min). Overall mean raptor use for all surveys for was 0.31 birds/20 min. Raptor species with the highest mean use over all surveys were the turkey vulture (0.12 birds/20 min), red-tailed hawk (0.11 birds/20 min), and American kestrel (0.05 birds/20 min). Each other raptor species, including northern harrier, Cooper's hawk, golden eagle, burrowing owl, prairie falcon, and sharp-shinned hawk had a mean use of 0.01 birds/20 min or less. No bald eagles were seen.

The common raven had the highest overall encounter rate (number of individuals flying within the anticipated RSA) with 0.15 birds flying within the anticipated RSA height range/20 min. The turkey vulture, red-tailed hawk, and American kestrel had the highest overall encounter rates among raptor species (≤0.10 birds flying at RSA height/20 min or less).

5.2.1.1 Golden Eagles

During the fall 2007 survey, 2 golden eagles were observed during point count surveys (0.014 birds/20 min) and 2 were observed incidentally. Both individuals were observed flying within the anticipated RSA, for an overall encounter rate of 0.014 birds/20 min flying within the RSA for fall 2007. No further observations of golden eagles occurred in subsequent survey seasons for an overall use rate of 0.003 birds/20 min; this rate was obtained by dividing 2 observations by 667 counts.

5.2.1.2 Special Status Species

No federally endangered, threatened or candidate species for Clark County, NV (USFWS 2012a) were detected during avian surveys or as incidental observations. Five species observed over all surveys were Nevada BLM, or Nevada state-sensitive species: burrowing owl, loggerhead shrike, LeConte's thrasher, Bendire's thrasher, and Brewer's sparrow (Table 4). The Project area overlaps the breeding range of each of these species. All species listed above had encounter rates of <0.01 birds/20 min flying within the RSA when analyzed per survey and overall, primarily because of their low mean use within the Project area.

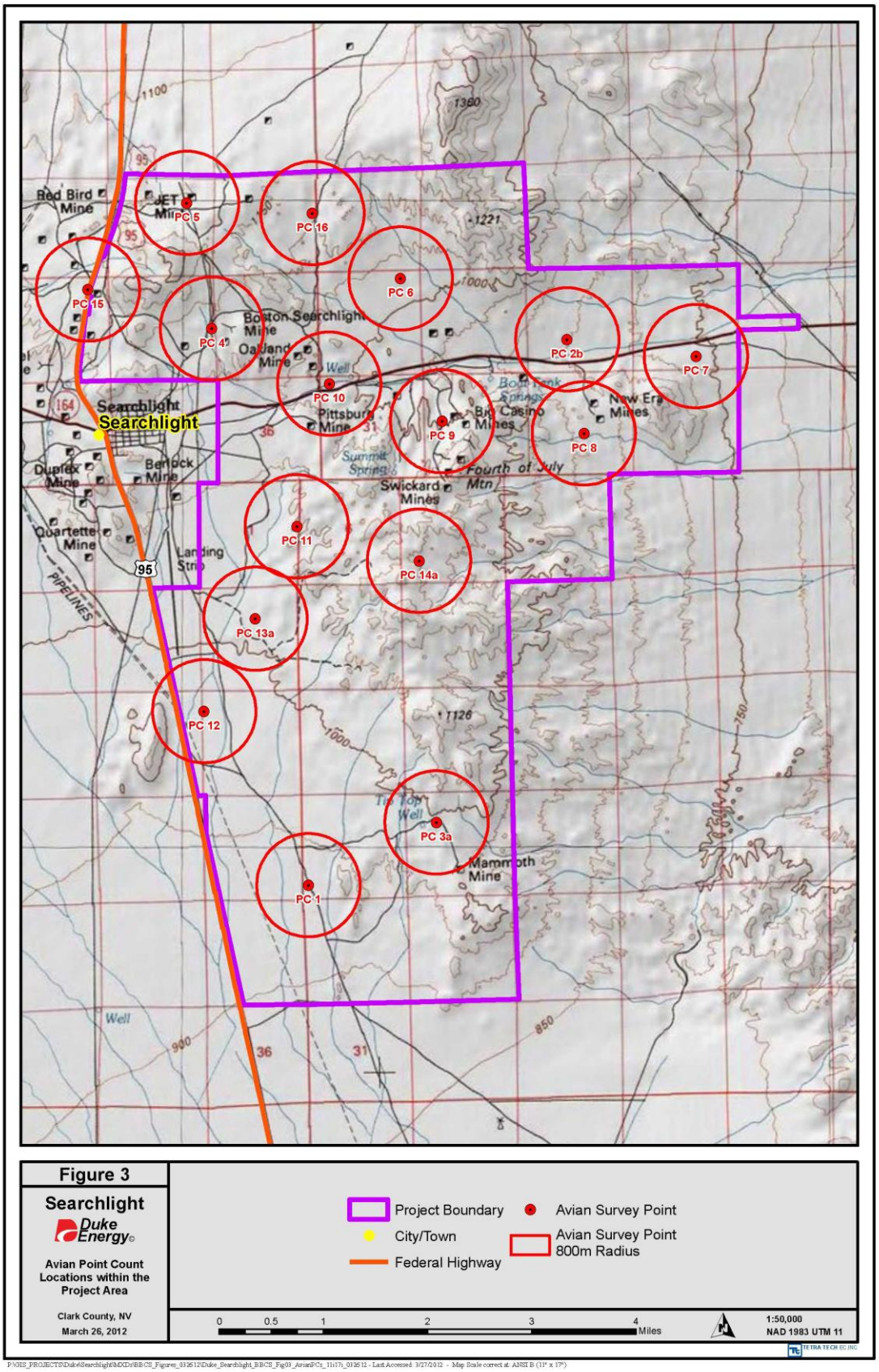


Figure 3. Avian Point Count Locations within the Project Area

Table 4. Special Status Species Occurrence within the Project Area

Species	Status[1]	Presence within Project Area
Bald eagle	BLM, NSE	None detected
Bendire's thrasher	BLM	Spring 2008 (2 birds)
Brewer's sparrow	BLM, NSS	Fall 2007, Spring 2008, and Spring 2009 (78 birds)
Ferruginous hawk	BLM	None detected
Golden eagle	BLM	Fall 2007 (2 birds plus 1 observed incidentally)
Loggerhead shrike	BLM, NSS	All 4 seasons (126 birds)
LeConte's thrasher	BLM	Spring 2008 (3 birds)
Peregrine falcon	BLM, NSE	None detected
Southwestern willow flycatcher	BLM, NSE	None detected
Western burrowing owl	BLM	Spring 2008 (2 birds)
Western snowy plover	BLM	None detected
Western yellow-billed cuckoo	USFWS Candidate, BLM, NSS	None detected
Yuma clapper Rail	USFWS Endangered, BLM, NSE	None detected

[1]BLM = Nevada BLM Sensitive Species; NSS = Nevada State Sensitive Species; NSE = Nevada State Endangered

5.2.2 Raptor Nest Surveys

Raptor nest surveys were conducted in spring 2008 and spring 2009 (Tetra Tech 2008, 2010; Table 5). In 2008, surveys were conducted by foot within the Project area (2008 layout) and approximately a 1-mile buffer (Tetra Tech 2008). One active red-tailed hawk nest and 5 inactive stick nests were found, with an additional red-tailed pair thought to be breeding within the Project area but no nest was found. A pair of American kestrels was also observed to be breeding in the Project area but no nest was located. Three burrowing owl burrows were observed, with 2 of the 3 burrows occupied by owl pairs. Both a barn owl and great horned owl pair were found utilizing abandoned mine shafts in the northern portion of the Project area.

In spring 2009, an aerial survey of the Project area and a 2-mile buffer conducted in April and follow-up ground surveys in May located 10 active red-tailed hawk nests (Tetra Tech 2010; Table 5). Additionally, 9 inactive stick nests and a breeding barn owl pair within a mine shaft were located. No active burrowing owl burrows were found in 2009. One of the red-tailed hawk nests and three of the inactive stick nests were located within the Project area (April 2009 layout).

Table 5. Raptor Nests Located During 2008 and 2009 Raptor Nest Surveys

Raptor Species	2008	2009
Red-tailed hawk	1	10
Inactive nests	5	9
Burrowing owl burrows	2 active, 1 inactive	None active
TOTAL	**9**	**19**

5.2.3 Bat Acoustic Monitoring

Acoustic detection of bats occurred year-round for 2 years, starting 9 April 2008 and concluding on 15 April 2010 (O'Farrell 2009a, 2010), in order to generate a baseline of knowledge on temporal changes in species composition and differential habitat use within the Project. The six stationary acoustic monitoring stations utilizing Anabat SD1 detectors were established at select sites within the Project area (Figure 4). Sites were selected that sampled the general habitat that may be affected by the proposed activities, and corresponded to locations proposed for wind turbines based on the Project layout at the time the protocol was developed (2008; Figure 4). The objective of this portion of the monitoring effort was to assess species richness and general level of bat use within the Project area. Monitoring stations were placed on four existing met towers, with acoustic detectors located at 2 m aboveground (Met Low) and 40-50 m aboveground (Met High). The dispersion of monitoring stations provided an adequate examination of general bat usage over the entire proposed Project area. Two additional stations (Stakes 1 and 2) were selected to sample areas deemed as potential movement corridors, and each only had a single detector 2 m above ground (Figure 4). Changes in the size of the Project area and turbine placement resulted in removal of one acoustic station (Met 4) in October 2008 and subsequent placement of a new stake station (Stake 4) in the southeastern portion of the Project area (Figure 4); Stake 4 was established 21 January 2009.

During the second year of bat surveys, additional acoustic monitoring stations were placed near local abandoned mines with known roosts (suspected maternity colonies) in order to address agency concerns about potential impacts of turbine placement (O'Farrell 2010). Monitoring at the mines occurred from May 1, 2009 to April 15, 2010.Two mine complexes (Mine 1 and 2) were identified from BLM data as being within the development area of the proposed Project, and judged to contain significant bat resources. Reconnaissance of the mines verified suitable conditions (e.g. wash or dry creek systems) near mine entrances for use as bat foraging and movement corridors. Three stake monitoring stations were established around each mine complex to monitor the bat activity associated with the respective wash systems.

Identification of species from acoustic recordings used the methods of O'Farrell et al. (1999) based on frequency characteristics, call shape, and comparison with a comprehensive library of vocal signatures developed by O'Farrell and colleagues. Thus, both activity data and species richness (number of species verified as present) were obtained for each location. Species use data were measured using an Index of Activity (IA), or the magnitude of each species contribution to spatial use, by using the sum of 1-minute time increments for which a species was detected as present divided by the number of nights of sampling (Miller 2001). The IA was multiplied by a factor of 100 and rounded to the nearest whole number in order to bring the smallest numbers up to whole numbers.

5.2.3.1 General Patterns

A total of 16 species of bats were recorded over both years (Table 6). One species, *Lasionycteris noctivagans*, was recorded in the first year of monitoring but not in the second (common names listed in Table 6). Conversely, *Macrotus californicus* and *Nyctinomops femorosaccus* were not recorded until the second year of monitoring. Seven of the species are listed as Federal Species of Special Concern (SOSC), four of them are State-listed Sensitive and three are State-listed Protected (Table 6). Species richness varied among the stations but no site had representatives of all 16 species found within the study area (Table 7).

Bat activity varied among stations and between detector heights. The highest total IA among all stations was found at Stake 4, Met 6 Low, Mine 2A and 2C; the total IA at these areas was approximately 1.4 times greater than that observed at the next most abundant areas (Table 7). All three High stations had the lowest total IA during the study with the exception of Met 1 in the first year of study (Table 7). In general, the majority of the bat activity at Met stations (76-81 percent) occurred at the Low rather than High stations (Table 7). Among Mine stations, the total IA varied in relation to the direction of station placement away from each mine. Twice as much activity was recorded in the drainage west of Mine 1 (1C) as was recorded either east (Mine 1A) or north (Mine 1B) of the mine. Likewise, more than twice as much activity was recorded east (Mine 2A) and south (Mine 2C) of Mine 2 as was recorded north (Mine 2B) of the mine.

All the data for Met stations were combined and analyzed for nightly patterns in activity. Two basic patterns were revealed. First, a crepuscular pattern was exhibited by *Parastrellus hesperus* with a small discrete peak just before sunset followed by a large peak in activity within the first hour after sunset. The remaining species demonstrated a later initial peak and then prolonged moderate activity through much of the night. The patterns were similar regardless of altitude of sampling.

Annual and seasonal variation in bat activity was also evident. The second year of monitoring had use rates 2-3 fold greater than the first year of monitoring. Seasonal patterns in use revealed the highest levels of activity to be during summer and early fall months. Migratory species had higher presence in spring than in fall months.

5.2.3.2 Species-specific Patterns

Tadarida brasiliensis and *P. hesperus* accounted for the majority of bat activity at both height levels throughout both years of monitoring (Table 7). Both species ranked as primary (contributed >25 percent of all bat activity) or secondary species (species contributed <25 but >6 percent) at all stations. *T. brasiliensis* had higher activity rates in the first year of study compared to the second, and was generally a secondary species at Mine stations (Table 7). In contrast, *P. hesperus* was ranked as primary more frequently in the second year of monitoring. *M. californicus* and *Myotis yumanensis* were also commonly ranked as primary or secondary species. *Eptesicus fuscus* was a secondary species at four locations among both years of study, but generally had low activity rates. The remaining 11 species including eight special status species (Table 7) were infrequently detected during both years of monitoring and individually contributed 6 percent or less to bat activity at any given station.

Within Mine stations, *M. yumanensis* was active at both mine complexes and regularly left the Project area immediately upon exiting day roosts to forage outside of the Project site at foraging

areas associated with Lake Mohave. Although both mine complexes were previously identified as being used by *Corynorhinus townsendii townsendii*, this species was absent from all Mine stations (Table 7), indicating lack of presence during the monitoring period.

Ma. californicus, My. californicus, Myotis ciliolabrum, Myotis yumanensis, P. hesperus, and *T. brasiliensis* are year-round resident species that were detected during the study (Table 6). *Antrozous pallidus* and *E. fuscus* are breeding residents that appear to be absent from the Project area in winter. Detections from early spring through late fall suggest that some, at least, of the breeding residents may remain locally and hibernate through the winter. *C. townsendii townsendii* is not present during the summer breeding season but apparently occurs, at least in small numbers, during the remaining portion of the year. The remaining seven species (*Myotis thysanodes, Lasiurus blossevillii, Lasiurus cinereus, L. noctivagans, N. femorosaccus, Nyctinomops macrotis,* and *Eumops perotis californicus*; Table 6) appear to be transient in the spring and/or fall months.

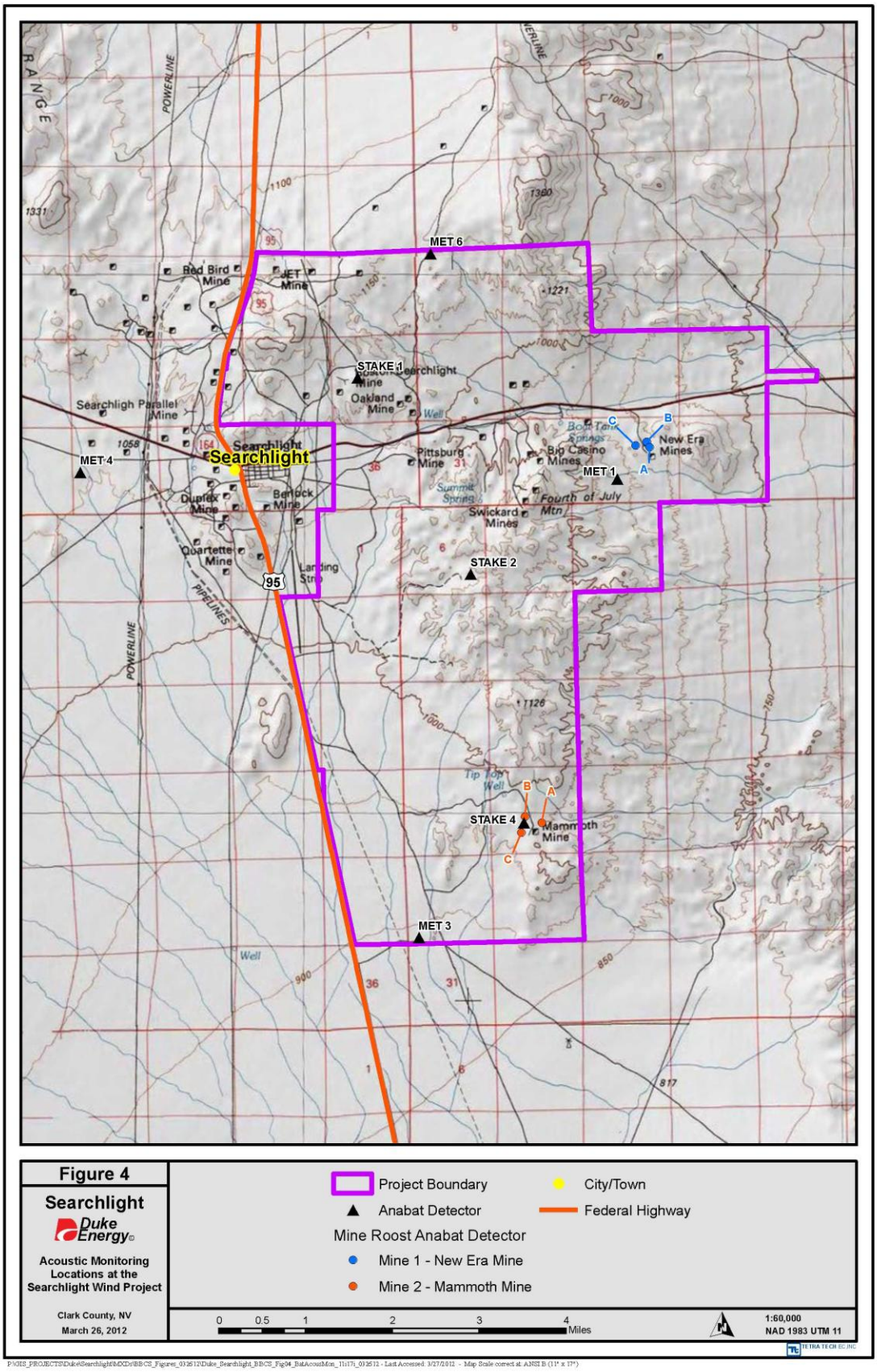


Figure 4. Acoustic Monitoring Locations at the Searchlight Wind Energy Project

Table 6. Checklist and Status of Bats Detected Within the Searchlight Wind Energy Project Site, 2008-2010.

Scientific Name	Common Name	Status[1]	Resident/Migrant Status	Years Detected
Macrotus californicus	California Leaf-nosed Bat	Federal SOSC, NSS	Year-round resident	2009-2010
Myotis californicus	California Myotis	-	Year-round resident	2008-2010
Myotis ciliolabrum	Western Small-footed Myotis	Federal SOSC, BLM	Year-round resident	2008-2010
Myotis thysanodes	Fringed Myotis	Federal SOSC, BLM NSP	Migrant	2008-2010
Myotis yumanensis	Yuma Myotis	Federal SOSC	Year-round resident	2008-2010
Lasiurus blossevillii	Western Red Bat	BLM, NSS	Migrant	2008-2010
Lasiurus cinereus	Hoary Bat	BLM	Migrant	2008-2010
Lasionycteris noctivagans	Silver-haired Bat	BLM	Migrant	2008-2009
Parastrellus hesperus	Western Pipistrelle	-	Year-round resident	2008-2010
Eptesicus fuscus	Big Brown Bat	-	Year round resident; may be breeding resident only in Project area.	2008-2010
Corynorhinus townsendii townsendii	Pacific Western Big-eared Bat	Federal SOSC, BLM, NSS	Year-round resident	2008-2010
Antrozous pallidus	Pallid Bat	NSP	Year round resident; may be breeding resident only in Project area.	2008-2010
Tadarida brasiliensis	Brazilian Free-tailed Bat	BLM, NSP	Year-round resident	2008-2010
Nyctinomops femorosaccus	Pocketed Free-tailed Bat	-	Migrant	2009-2010

Scientific Name	Common Name	Status[1]	Resident/Migrant Status	Years Detected
Nyctinomops macrotis	Big Free-tailed Bat	Federal SOSC	Migrant	2008-2010
Eumops perotis californicus	Greater Western Mastiff Bat	Federal SOSC, NSS	Migrant	2008-2010

[1]SOSC = Species of Special Concern, NSP= Nevada State Protected, NSS = Nevada State Senstive, BLM = Nevada BLM sensitive species
Nomenclature follows Hoofer et al. (2006), Wilson and Cole (2000), and Wilson and Reeder (1993).

Table 7. Summary of Bat Activity from Acoustic Monitoring in April 2008 – April 2010

Station	Overall Species Richness	Index of Activity		Species Presence (2008-2009/2009-2010)[1]															
		2008-2009	2009-2010	MACA	MYCA	MYCI	MYTH	MYYU	LABL	LACI	LANO	PAHE	EPFU	COTO	ANPA	TABR	NYFE	NYMA	EUPE
Stake 1	11	363	497	-/-	S/P	I/I	-/-	I/S	-/I	I/I	I/-	S/P	I/S	I/-	I/I	P/S	-/-	-/-	-/-
Stake 2	11	460	259	-/-	I/S	I/I	-/-	I/S	-/-	I/-	-/-	S/P	I/I	I/I	I/I	P/S	-/-	I/-	-/I
Stake 4	11	543	687	-/-	S/P	I/I	-/-	I/S	-/-	I/I	-/-	S/P	I/I	-/I	I/I	P/P	-/-	-/I	-/I
Met 1 High	12	190	100	-/-	I/-	I/-	-/-	I/I	-/-	I/I	-/-	I/S	I/-	I/-	I/-	P/P	-/I	-/I	I/I
Met 1 Low	11	118	326	-/-	-/S	I/I	-/-	I/S	-/I	-/I	-/-	P/P	I/I	-/I	I/-	P/S	-/I	-/-	-/-
Met 3 High	12	117	119	-/-	I/-	I/-	-/-	S/I	-/-	I/I	-/-	S/S	S/I	I/-	I/-	P/P	-/I	-/I	-/I
Met 3 Low	12	333	497	-/-	S/P	I/I	-/-	S/S	-/-	I/I	-/-	S/P	I/I	I/I	I/I	P/P	-/I	-/I	I/I
Met 4 High	9	457	-	-/na	I/na	S/na	-/na	I/na	-/na	I/na	-/na	S/na	S/na	-/na	I/na	P/na	-/na	-/na	I/na
Met 4 Low	10	687	-	-/na	P/na	S/na	I/na	I/na	-/na	I/na	I/na	S/na	S/na	-/na	I/na	P/na	-/na	-/na	-/na
Met 6 High	10	140	140	-/-	I/-	I/-	-/-	-/I	-/-	I/I	-/-	S/P	I/I	-/-	I/-	P/P	-/I	-/-	I/I
Met 6 Low	12	802	614	-/-	S/S	I/I	I/I	I/I	-/-	I/I	-/-	P/P	I/I	-/I	I/I	S/S	-/-	-/I	I/I
Mine 1A	7	-	290	na/I	-/P	na/I	na/-	na/S	na/-	na/-	na/-	na/P	na/I	na/-	na/-	na/S	na/-	na/-	na/-
Mine 1B	7	-	250	na/-	-/S	na/I	na/-	na/S	na/I	na/-	na/-	na/P	na/I	na/-	na/-	na/P	na/-	na/-	na/-
Mine 1C	11	-	497	na/I	-/P	na/I	na/-	na/P	na/I	na/I	na/-	na/P	na/I	na/-	na/I	na/S	na/-	na/I	na/-
Mine 2A	7	-	766	na/-	-/S	na/I	na/-	na/S	na/-	na/I	na/-	na/P	na/I	na/-	na/-	na/S	na/-	na/-	na/-
Mine 2B	6	-	341	na/-	-/S	na/-	na/-	na/S	na/-	na/I	na/-	na/P	na/I	na/-	na/-	na/S	na/-	na/-	na/-
Mine 2C	8	-	775	na/-	-/P	na/I	na/-	na/S	na/-	na/I	na/-	na/P	na/I	na/-	na/I	na/S	na/-	na/-	na/-

1Primary (P) = species contributed > 25 percent of all bat activity; Secondary (S) = species contributed < 25 percent but > 6 percent of bat activity; Infrequent (I) = species contributed ≤ 6 percent of activity; - = not detected; na = not monitored at that location for that year of study. Species abbreviations are derived from the first two letters of the genus and the first two letters of the species (Table 6).

5.2.4 Golden Eagle and Raptor Nest Surveys

Aerial surveys were conducted for nests of golden eagles and other raptor species in spring 2011 (Tetra Tech 2011). The survey area was the area within a 10-mile buffer of the Project area (as of December 2009), exclusive of the area surveyed in 2009 (Project area and 2-mile buffer). A survey route of suitable nesting habitat in this area was developed in conjunction with an NDOW biologist. Nest data collected included species, active or inactive status, substrate, condition, and photographs. Protocol followed that recommended by the USFWS (Pagel et al. 2010).

A total of 16 active raptor nests and 49 inactive stick nests were identified during 2011 surveys (Table 8; Figure 5). These nests are in addition to the 10 red-tailed hawk nests and 9 inactive stick nests located in 2009, for a grand total of 26 active raptor nests and 58 inactive stick nests within the Project area and 10-mile buffer. Active nests located in 2011 included 1 confirmed and 2 probable golden eagle nests (presence of chick but no adult) and 12 confirmed and 1 probable red-tailed hawk nests (presence of chicks but no adult). Golden eagle nest 011 (Figure 5), was updated from probable to confirmed in 2012 based on NDOW datasets, altering the count to 2 confirmed and 1 probable golden eagle nests. All of the golden eagle nests were located on cliffs, whereas only 3 (2 confirmed, 1 probable) red-tailed hawk nests were on cliffs. All other red-tailed hawk nests were on transmission towers. Among inactive stick nests, 35 were found on cliffs (3 in 2009, 32 in 2011), with the rest found on manmade structures (Figure 6). The golden eagle nests were located 4.3 miles (6.9 km; probable golden eagle nest #11), 10.0 miles (16 km; probable golden eagle nest #23), and 10.2 miles (16.4 km; confirmed golden eagle nest #65) from the Project boundary (Figure 5). Two large inactive nests were located approximately 0.5 miles from golden eagle nest #11, and may be alternate nests within that territory. No inactive large nests were located near the other 2 golden eagle nests, possibly as a result of limited survey effort at the edge of the survey area where nests 23 and 65 were located.

Table 8. Raptor Nests Located During 2009 and 2011 Aerial Raptor Nest Surveys

Raptor Species	2009 Surveys			2011 Surveys			Grand Total
	Project Area	2-mile Buffer	10-mile Buffer	Project Area	2-mile Buffer	10-mile Buffer	
Golden eagle	0	0	0	0	0	3[1]	**3**
Red-tailed hawk	1	8	10	1	3	13[2]	**23**
Inactive stick nests	2	7	9	0	0	49	**58**
TOTAL	**3**	**15**	**19**	**1**	**3**	**65**	**84**

[1]Includes 2 probable golden eagle nests
[2]Includes 1 probable red-tailed hawk nest

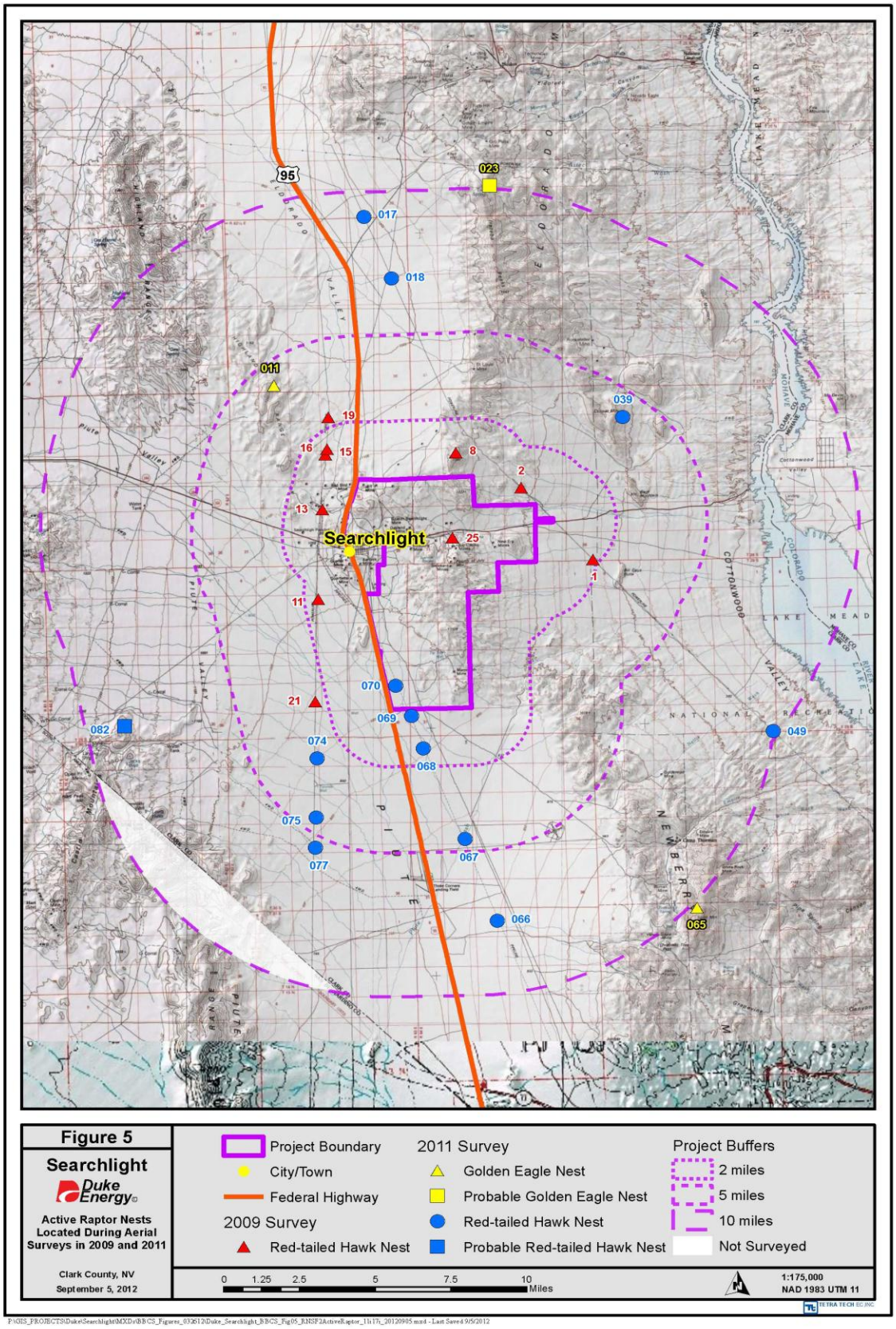


Figure 5. Active Raptor Nests Located During Aerial Surveys in 2009 and 2011

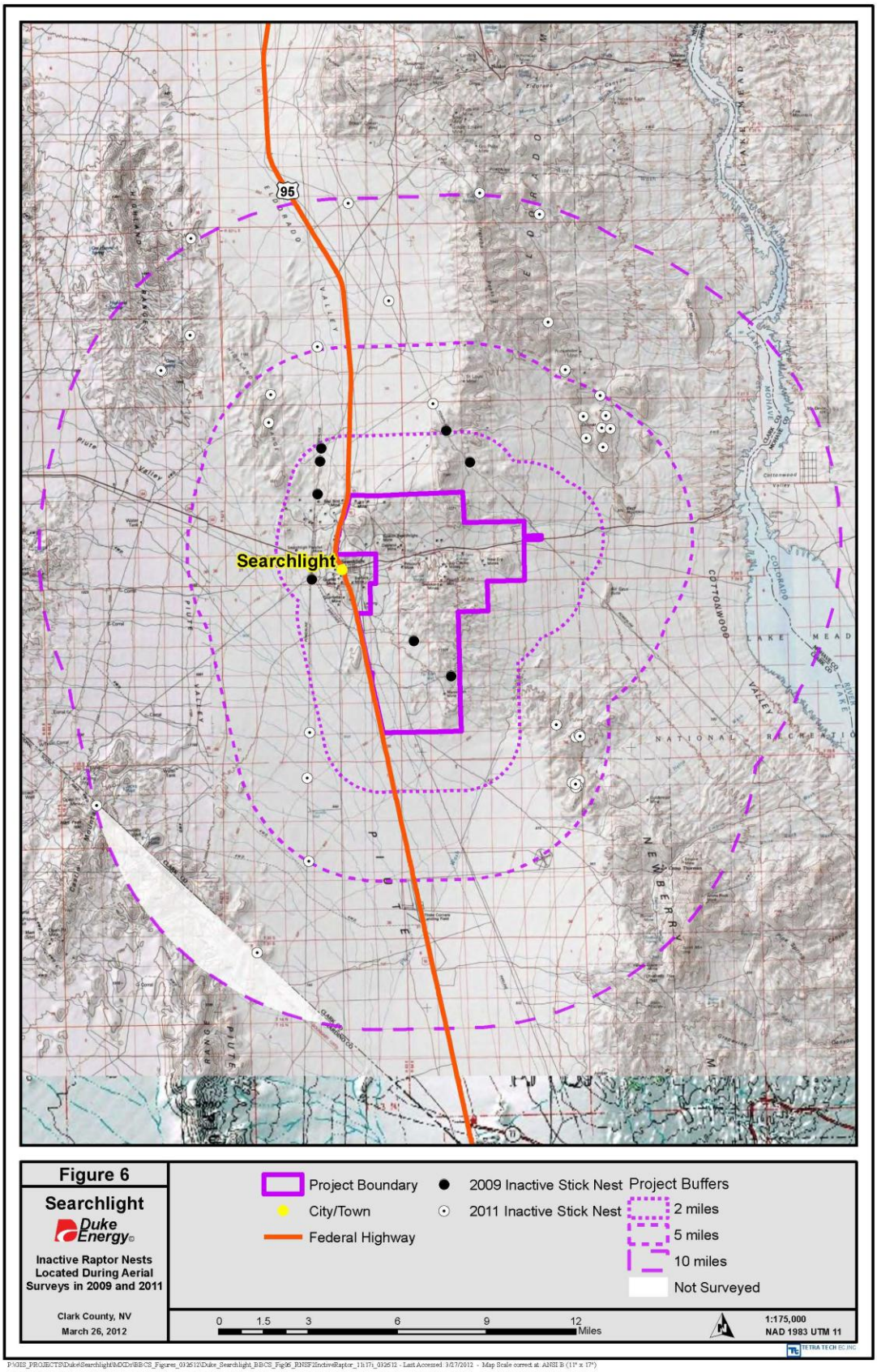


Figure 6. Inactive Raptor Nests Located During Aerial Surveys in 2009 and 2011

5.2.5 Bald Eagle Winter Surveys

In response to USFWS and NDOW concern regarding potential winter use by bald eagles of the Project area and Lake Mohave, ground-based eagle surveys were performed roughly every other week from December 16, 2011 to January 26, 2012 (Tetra Tech 2012). These surveys were designed to assess spatial and temporal patterns of bald eagle use, although incidental observations of golden eagles would be recorded. Surveys were conducted from 2 survey locations established in the northeastern-most region of the Project on topographical high points, using a visibility distance cut-off of 3 miles, past which species identification is questionable. Each survey session was 4 hours in length, and both locations were surveyed concurrently by 2 surveyors (1 at each location). Each location was surveyed 4 times, with time of day rotated between morning and afternoon periods. No bald eagles or golden eagles were observed during the 32 hours of surveys conducted, nor were any individuals of these species observed incidentally.

5.3 Risk Assessment (Tier 3)

This section outlines potential risks to birds and bats related to the construction and operation of the Searchlight Wind Energy Project and supporting facilities; other effects are analyzed in the EIS. While golden eagles are mentioned in 5.3.1 for the sake of completeness, impacts to golden eagles are discussed solely in Section 5.3.2. Methods to avoid or minimize these risks through Project design, construction, and operation are provided in subsequent sections, and Section 9 outlines mitigation and adaptive management for unavoidable risks.

This section provides a qualitative risk assessment for the effect of a factor (e.g., collision, electrocution) on birds other than eagles and bats. The intention is not to predict the number of fatalities due to turbine collision as pre-construction data poorly predicts fatalities for birds (Ferrer et al. 2012), but to determine if any species is at high risk to inform post-construction fatality monitoring. The risk assessment is specific to the factor (e.g., turbine collision) and does not evaluate the effect on population dynamics because for most species, population trend data is not available. For wind turbine collisions, a risk profile was calculated using the following equation:

Risk profile = percent of surveys in which the species was observed x the percent flying x the percent flying in the RSA

The risk profile is scaled between 0 and 1. A risk profile between 0 – 0.33, 0.34 – 0.66, 0.67 – 1.0 is considered low, moderate, and high risk, respectively. Supplemental data from post-construction fatality monitoring studies is used to inform the final risk categorization. For example, a risk profile may indicate that risk to common raven is high, but common raven is not a common fatality at wind projects within their range and the risk categorization would be adjusted to low (Johnson and Erickson 2010). Wind energy fatality data is limited for the Mojave Desert, but it is not expected that collision risk varies regionally. For example, horned lark is a common fatality in the Columbia Plateau ecoregion in Washington and Oregon (Johnson and Erickson 2010), and horned lark is assumed to be at moderate to high risk of collision with wind turbines throughout its range.

5.3.1 Birds (Non-eagles)

5.3.1.1 Collision

Birds have been identified as a group at risk because of collisions with wind turbines and power lines (Erickson et al. 2005, Drewitt and Langston 2006, Arnett et al. 2007). Specifically, migrant passerines (e.g., songbirds) are found more often in post-construction mortality monitoring compared to other groups of birds (Arnett et al. 2007). At newer generation wind energy facilities outside of California, approximately 80 percent of documented fatalities have been songbirds, of which 50 percent are often nocturnal migrants (Erickson et al. 2001, Drewitt and Langston 2006, Johnson et al. 2007, Strickland and Morrison 2008). It is estimated that less than 0.01 percent of migrant songbirds that pass over wind farms are killed, based on radar data and mortality monitoring (Erickson 2007). Locally breeding songbirds may experience lower mortality rates than migrants because many of these species tend not to fly at turbine rotor heights during the breeding season. However, some breeding songbird species such as the horned lark have behaviors that increase their risk of collisions with turbines. Most songbirds are short-lived and have high reproductive output, and their population growth rates are more sensitive to reproductive failure than to adult survival (Stahl and Oli 2006, Arnold and Zink 2011). Therefore, collision mortality for most songbird species is expected to have negligible effects on population dynamics.

Results of 2 years of avian point count surveys revealed that the bird community within and surrounding the Project area is made up of species typical to the Mojave desert, and exhibits little change seasonally. Songbirds, gamebirds, and pigeon/doves are likely to use the Project area on occasion and were the most commonly observed species groups during the 2007-2009 avian point count surveys (Tetra Tech 2010). The three primary species dominating the community were black-throated sparrow, Gambel's quail, and mourning dove. Despite its presence within the Pacific Flyway (USFWS 2011b), the Project area does not receive a large influx of breeding birds in the spring, and migrants were detected during point counts infrequently and in low numbers. Although diurnal point counts are not optimal for detecting nocturnally migrating songbirds, the weather patterns in the Searchlight area rarely create collision risk situations such as a low cloud ceiling or precipitation that influence migrant songbird stopover. In 2008, approximately 6% of the weather observations in March, April, May, August, September, and October had a cloud ceiling lower than 1500m. High wind situations in which wind direction provides a strong head wind to migratory movement, however, may influence migratory "fall out" (Schakleford 2005). However, it is unlikely that the Project area is located in a major songbird migratory route due to the harsh desert conditions. Thus, migratory species making stopovers in the area are unlikely to concentrate within the Project area due to similar habitat being readily available throughout the region and more favorable habitat existing along the Colorado River near Lake Mohave. No surveys targeting nocturnal migrants were conducted pre-construction. The relatively low overall use rates observed during surveys combined with limited habitat availability suggest that there are unlikely to be major concentrations of non-raptors during the breeding season or during migration. Despite the observation that most avian fatalities at wind farms are songbirds, raptor mortality historically has received the most attention. Raptor mortality at newer wind projects has been low relative to older-generation wind farms, although there is substantial regional variation in raptor mortality

rates (Erickson et al. 2002, 2004, Johnson et al. 2002, Kerns and Kerlinger 2004, Jain et al. 2007).

The Project area contains steep hills and mountains as well as flats, washes, and valleys that provide some suitable foraging and nesting habitat for raptors; however, raptor use within the Project area was low (<1.0 birds/20 min) over the course of the 2007-2009 avian point count surveys. Such levels of raptor use within the Project area suggest that raptor mortality is anticipated to be low (Young et al. 2003, Erickson 2007). Raptor species that are likely to be found on site primarily include turkey vulture and red-tailed hawk. However, other raptor species including northern harrier, sharp-shinned hawk, Cooper's hawk, golden eagle (see Section 3.2), American kestrel, and burrowing owl may occur within the Project area on occasion as well. Fatalities of turkey vultures and red-tailed hawks have occurred at wind farms (e.g., Kerns and Kerlinger 2004; Erickson et al. 2004),.

Of the 64 species detected during all surveys, only 10 (16 percent) had a risk profile value greater than 0.05 indicating risk to most bird species is low. Of the 10 species with a risk profile greater than 0.05, 1 species had a risk categorization of high (turkey vulture) and 4 species had a risk categorization of moderate (red-tailed hawk, American kestrel, house finch, and horned lark); the remaining 5 species had a risk categorization of low (Table 9).

Based on the summary above and information known on collision risk at other western U.S. facilities in arid environments (Table 9; mean fatality rate = 2.02 birds/MW/year), the collision risk for birds at the Project will likely be low. This risk will be further reduced through measures taken during the design, construction, and operational phases of the Project (Sections 4-6).

Table 9. Risk Categorization for Birds at the Searchlight Wind Energy Project

Species	Percent surveys detected	Percent flying	Percent flying within RSA	Risk profile	Supplemental data used to adjust risk profile	Risk categorization
common raven	14.9	80.4	74.5	0.89	Few records as fatalities	Low
turkey vulture	9.6	100.0	83.1	0.80	None	High
red-tailed hawk	8.6	68.8	78.2	0.46	None	Moderate
house finch	15	56.5	41.1	0.35	None	Moderate
American kestrel	3.2	87.2	79.4	0.22	Common fatality	Moderate
horned lark	8.6	67.6	31.7	0.18	Common fatality	Moderate
northern rough-winged swallow	1.8	100.0	90.5	0.16	None	Low
northern harrier	0.8	100.0	83.3	0.07	Few records as fatalities	Low
loggerhead shrike	13.5	28.6	13.9	0.05	None	Low
Cooper's hawk	0.8	100.0	66.7	0.05	None	Low

5.3.1.2 Electrocution

Utility lines (transmission and distribution) can potentially result in electrocution of bird species (e.g., large raptors) that have wing-spans large enough that the bird can simultaneously contact two conductors or a conductor and grounded hardware. Therefore, any structures that allow for circuit completion (i.e., flesh-to-flesh contact between energized parts or an energized and grounded part) pose an electrocution risk. To protect birds from possible electrocution, the APLIC recommends that lines in areas with eagles and other larger birds have a horizontal separation of 60 inches and a vertical separation of 40 inches between phase conductors or between a phase conductor and grounded hardware (APLIC 2006). The aboveground power lines will be built according to APLIC recommendations that are designed to reduce risk, thus the risk of electrocution to birds is expected to be low.

5.3.1.3 Disturbance/Displacement

In addition to mortality associated with wind farms, concerns have been raised that some bird species may avoid areas near turbines after the wind farm is in operation (Drewitt and Langston 2006). For example, at the Buffalo Ridge wind energy facility in Minnesota, densities of male songbirds were significantly lower in Conservation Reserve Program (CRP) grasslands containing turbines than in CRP grasslands without turbines though the causal mechanism was not studied (Leddy 1999). Reduced abundance of grassland songbirds was found within 50 meters (m) of turbine pads for a wind farm in Washington and Oregon, but the investigators attributed displacement to the direct loss of habitat or reduced habitat quality and not the presence of the turbines (Erickson et al. 2004). Research at two sites in North and South Dakota (Shaffer and Johnson 2008) suggests that certain grassland songbird species (2 of 4 studied) may avoid turbines by as much as 200 m, but these results have not been finalized nor verified at additional sites. None of these studies have addressed whether these avoidance effects are temporary (i.e., the birds may habituate to the presence of turbines over time) or permanent. Pearce-Higgins et al. (2012) found little evidence for a post-construction decline for ten species of birds at 18 wind projects in upland habitats in the UK based on data from 1 to 10 years post-construction (more than half of the data was between 1 and 3 years post-construction). However, disturbance related effects were detected during construction.

Construction activities and the presence of turbines and other Project features may disturb or displace birds. Many of the species detected during avian surveys likely breed in the Project area, and burrows/nests were found in the Project area for both burrowing owl and red-tailed hawk, suggesting potential for impact to breeding birds. However, overall impacts to regional populations of birds from Project-related disturbance or displacement of local breeders are likely to be low based on the relatively low avian use in the Project. Human impacts near and within the Project area already include the town of Searchlight, distribution and transmission lines, recreational off-highway vehicle (OHV) use along two-tracks, U.S. Highway 95, Cottonwood Cove Road, a Nevada Department of Transportation gravel pit, and several abandoned mines, and the majority of raptor stick nests detected during surveys were found on man-made structures despite the availability of cliff habitat. Thus, the additional disturbance of 388.5 acres, of which only 155.3 will be permanently disturbed, is may affect birds locally, but is unlikely to cause disturbance birds breeding regionally. The risk of disturbance/displacement will be further

reduced through avoidance and minimization measures taken during the design, construction, and operational phases of the Project (Sections 4-6).

5.3.1.4 Habitat Loss and Fragmentation

Habitat fragmentation can exacerbate the problem of habitat loss for birds by decreasing patch area and increasing edge habitat. Habitat fragmentation can reduce avian productivity through increased nest predation and parasitism and reduced pairing success of males. However, the increase in the amount of fragmentation as a result of Project construction will be minimized by using existing roads and OHV trails. Potential habitat fragmentation resulting from development of the Project will be reduced through avoidance and minimization measures taken during the design, construction, and operational phases of the Project (Sections 4-6). Additionally, at the end of the Project's life, the areas of permanent impact will be restored to their previous condition.

5.3.2 Eagles

5.3.2.1 Collision

Golden eagles are susceptible to wind turbine collisions. Although fatalities have been reduced at wind farms with newer generation turbines, golden eagle fatalities do still occur (Orloff and Flannery, 1992, Kerns and Kerlinger 2004, Kerlinger et al. 2006a). To date, 54 golden eagle fatalities have been reported for wind energy facilities (excluding Altamont Pass; Pagel et al. 2011). However, the presence of golden eagles does not equate to golden eagle fatalities when turbines are placed away from areas of high golden eagle use (Young et al. 2003).

Multiple seasons of avian surveys produced only 2 observations of golden eagles in fall 2007 (0.014 birds/20-min) for an overall use rate of 0.003 golden eagles/20-min (Tetra Tech 2010) indicating low use of the Project area by this species. This is supported by a comparison among seasonal use rates from other western wind facilities with pre-construction data (Figure 7). No bald eagles were observed during avian surveys, and neither bald nor golden eagles were observed during bald eagle monitoring in 2011 (Tetra Tech 2012). No golden eagle nests were detected within the Project area, and the nearest eagle nest was 4.3 miles from the Project area (Figure 5). Nesting eagles are unlikely to use the Project area based on research on golden eagle home range size and foraging distances in southwestern Idaho (Marzluff et al. 1997), which indicated that breeding golden eagles have an average maximum travel distance of 2.8 miles from the nest during the breeding season. Although prey densities in the Mojave Desert may be lower than in Idaho and could increase the distance traveled from nest during the breeding season, the lack of observations during the breeding season do not suggest the Project area receives high use. However, due to the lack of data regarding golden eagle home range size in the Mojave Desert, actual movement patterns are unknown.

Eagles might use the Project area during the non-breeding season based on research on golden eagle home range size and foraging distances in southwestern Idaho (Marzluff et al. 1997), which indicated that breeding golden eagles have an average maximum travel distance of 5.9 miles from the nest during the non-breeding season. Although prey densities in the Mojave Desert may be lower than in Idaho and could increase the distance traveled from nest during the non-breeding season, the few of observations during the non-breeding season do not

suggest the Project area receives high use. However, due to the lack of data regarding golden eagle home range size in the Mojave Desert, actual movement patterns are unknown.

New generation wind facilities in the west that have had golden eagle fatalities have typically had noticeably higher use rates than those recorded at the Project (Figure 7). Together, these results suggest that the risk of turbine collision at the Project is low for golden eagles, and nonexistent for bald eagles, assuming that use is proportional to risk.

The collision risk analysis uses a weight-of-evidence approach to estimate the risk of eagle fatalities at the Project. In the sections that follow, we use a comparative analysis of other western wind Projects that have pre-construction eagle use data and post-construction eagle fatality data.

5.3.3 USFWS Fatality Model Design

To estimate the potential number of annual golden eagle fatalities at the Project, Searchlight Wind worked with the USFWS to use the Bayesian analysis model recommended in the 2012 ECP Appendices (USFWS 2012). The risk of collision was modeled as the mean number of fatalities per year resulting from a Bayesian analysis of the input data, which assumes that risk is proportional to use (USFWS 2012). Bayesian models use existing information to estimate the statistical distribution (called prior probabilities in Bayesian analysis) of variables of interest in a hypothesis test, and then use new data to update the distribution. The USFWS Bayesian model attempts to predict collision risk at a wind farm based on the exposure of eagles to turbines as measured by point count surveys.

In this model, the total annual eagle fatalities (F) as the result of collisions with wind turbines are predicted as the product of the rate of eagle exposure (λ) to turbine hazards, the probability that eagle exposure will result in a collision with a turbine (C), and an expansion factor (ε) that scales the resulting fatality rate to all daylight hours over the entire project (equation 1).

$$F = \varepsilon \lambda C \qquad \text{Equation 1}$$

Within the Bayesian estimation framework, prior distributions for exposure rate and collision probability are derived by the USFWS from previous studies. The expansion factor is a constant based on the proportion of daylight hours and hazardous area around turbines that is sampled by the point counts. The analysis calculates the exposure posterior distribution from its prior distribution and observed point count data. The expanded product of the posterior exposure distribution and collision probability prior yields the predicted number of annual fatalities.

The exposure rate λ is the expected number of exposure events (eagle-minutes) per daylight hour per square kilometer (hr km^2). In the 2012 ECP Appendices (USFWS 2012), the USFWS defined the prior distribution for exposure rate for golden eagles based on information from a range of projects under USFWS review and others described with sufficient detail in Whitfield (2009). The posterior probability distribution for exposure is produced by the model using the prior distribution and the minutes of eagle exposure measured during point counts (t). The new posterior λ parameters are the sum of the mean of the prior distribution and the eagle minutes

observed (t), with the standard deviation of the posterior distribution determined by the number of point counts (N).

Collision probability (C) is the probability of an eagle colliding with a turbine given an eagle's exposure to turbine collisions (1 minute of flight in the hazardous area). For the purposes of the model, all collisions are considered fatal. The USFWS provided a prior distribution for this variable based on a Whitfield (2009) study of avoidance rates of golden eagles from four independent sites.

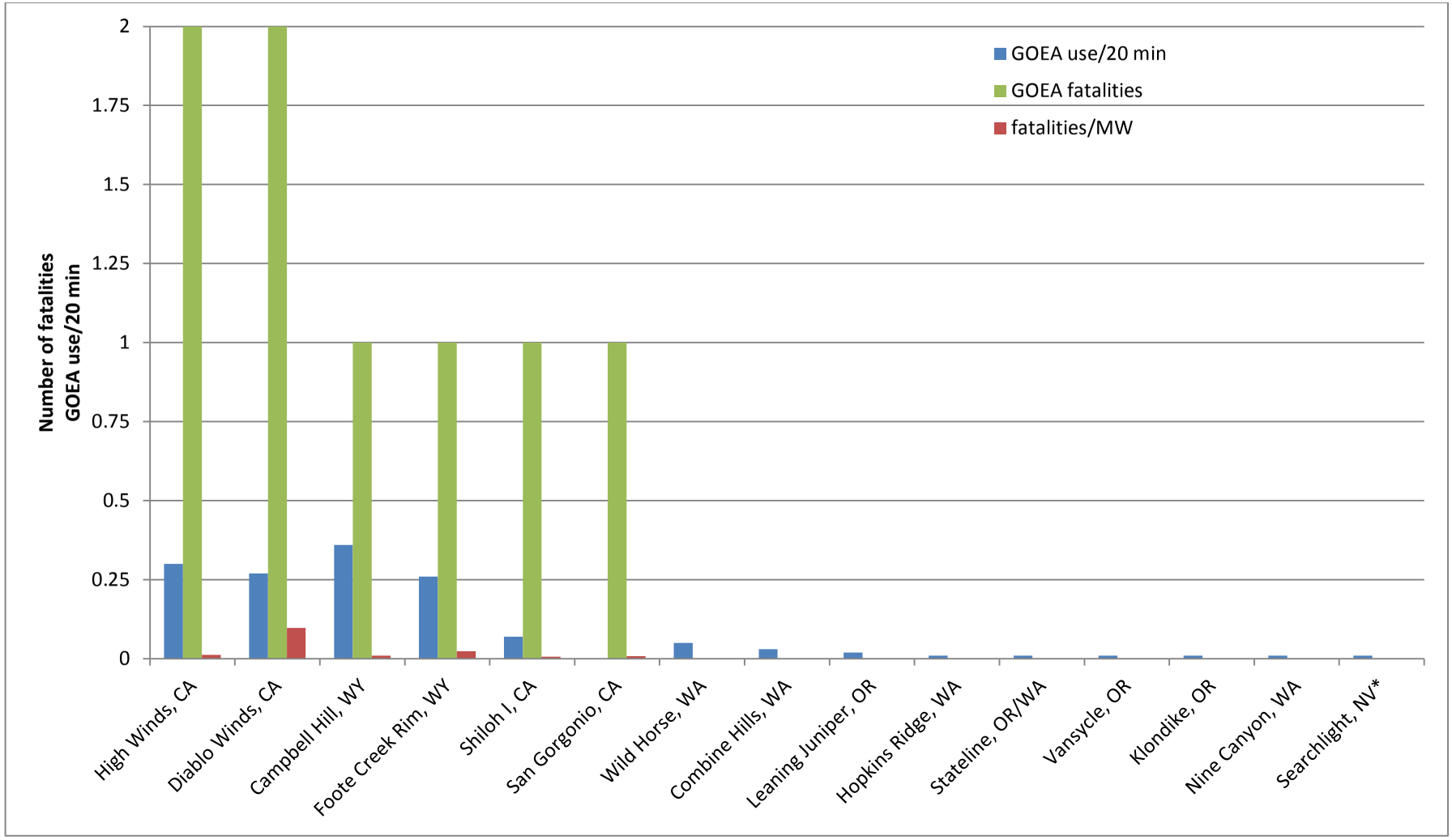
The expansion factor (ε) scales the resulting per-unit fatality rate (fatalities per hr-per km^2) to the daylight hours, τ, in 1 year (or other time period if calculating and combining fatalities for seasons or stratified areas) and total hazardous area (km^2) within the project footprint (equation 2):

$$\varepsilon = \tau \quad {}_{i=1}^{n_t} \delta_i \qquad \text{Equation 2}$$

where n_t is the number of turbines, and δ is the circular area centered at the base of a turbine with a radius equal to the rotor-swept radius of the turbine (USFWS defines this as the hazardous area surrounding a turbine). The model assumes both eagle use and hazardous area occur in 2-dimensional areas. The units for ε are hr·km^2 per year (or season).

To determine the distribution for the predicted annual fatalities, the exposure and collision risk distributions need to be multiplied by each other and expanded. The resulting distribution cannot be calculated in closed form so the model generates it through 100,000 simulations. The iterative calculation of annual fatality predictions, using eagle minutes of exposure as an input, was calculated according to equation 1 starting with the USFWS-provided, uninformative prior.

Using the Bayesian model described above, the USFWS estimates that one golden eagle fatality will occur every five years. This result represents a worst case scenario based on the turbines being operational during all daylight hours and does not reflect the anticipated turbine operational hours. Adjusting the daylight hours based on the likelihood of a turbine operating will result in a reduced fatality estimate. Searchlight Wind will work with the USFWS to provide data to adjust the daylight hours and produce a revised fatality estimate, which will be incorporated into a revised BBCS.



***Pre-construction use data only**

Figure 7. Mean Use by Eagles (Eagle Use/20 min; Pre-construction), Total Eagle Fatalities, and Eagle Fatalities/MW (Post-construction) at Wind Energy Projects in the Western U.S. Compared to Mean Use at the Searchlight Wind Energy Project

5.3.3.1 Electrocution

Fatalities of golden eagles have occurred as a result of electrocution and collisions with utility lines and structures, particularly distribution lines (APLIC 2006). Due to their large size, eagle species are able to bridge conductive elements to complete the circuit, and electrocutions of golden eagles are more common than bald eagle (Harness and Wilson 2001, APLIC 2006). However, the risk of eagle electrocution due to the Project is likely to be low because all collection lines will be buried where possible and design of overhead lines will follow APLIC guidelines.

5.3.3.2 Disturbance/Displacement

Bald eagles do not appear to use the Project area for foraging, nesting, or roosting based on avian, nest, and winter bald eagle surveys, thus risk of disturbance or displacement of bald eagles is expected to be negligible. Golden eagle disturbance or displacement is possible during construction or operation of the Project, particularly during the nesting season (February through July in Nevada). The potential for displacement or disturbance for eagles is somewhat offset by the background disturbance pre-existing in the Project area, which includes recreational uses such as OHV use, and local and highway traffic. Project construction may disturb golden eagles if they are nesting within line-of-sight of the Project or if the areas under active construction are preferred foraging areas. Project operations may disturb golden eagles if the presence of the operational turbines causes golden eagles to avoid using the Project area. However, evidence of fatalities at other wind farms suggests that golden eagles do not avoid operational facilities (Pagel et al. 2011). Recommendations for appropriate buffer distances to minimize disturbance vary by geographical location and by activity, but are not explicitly stated in current USFWS guidance (USFWS 2011a). Buffers based on research relative to nest disturbance range from 0.12 mile to 2 miles, with distances <1 mile being the most common recommendation (Table 11).

Few studies have examined raptor nest densities and nesting activity before and after project construction, and most of these have produced descriptive, rather than experimental data. Several studies conducted at western wind energy facilities produced somewhat equivocal results, but generally suggest that wind energy facilities do not displace nesting raptors or reduce nest densities post-construction (Erickson et al. 2003a, 2004; Johnson et al. 2003; Young et al. 2006; Gritski et al. 2008). For example, post-construction studies at the Leaning Juniper Wind Farm in Oregon suggest that raptor nests > 0.5 miles from turbines were not disturbed by the facility (Gritski et al. 2008), whereas other studies have found no clear relationship to distance from turbines (Johnson et al. 2003, Young et al. 2006), and some have suggested differences among species in their response to construction activities (Johnson et al. 2000a; Erickson et al. 2003a, 2004). However, most publically available studies are limited to one to two years of post-construction monitoring; therefore, inference is limited to short term effects.

Raptor and golden eagle nest surveys detected a total of 3 active golden eagle nests within a 10-mile radius of the Project area. The closest nest (#11) was 4.3 miles from the Project

boundary (nest #11; Figure 5). The view of the Project from nest #11 and #23 (10.0 miles from the Project boundary) will likely be partially if not completely blocked by topography. Nest #65, however, is within line-of-sight to the Project, but risk of disturbance is likely minimized by distance from the Project (10.2 miles). Golden eagles are unlikely to avoid using the Project area for foraging based on the presence of golden eagles as fatalities at wind energy projects (e.g., Smallwood and Karas 2009).

Table 10. Summary of Research or Policy-based Buffer Distances for Golden Eagles

Restrictions		Location	Activity	Notes	Reference
Spatial	Temporal				
Research-Based Literature					
1.0 mile	Unknown	CO and WY	Pipeline		Olendorff and Zeedyk 1978
0.19 mile	Winter	CO	Any	Approach distance within which 90% of birds flushed	Holmes et al. 1993
2 miles	All year	AK and Alberta	Pipeline	No construction	Jacobson 1974
2 miles	March 1 to September 1	AK and Alberta	Pipeline	No ground activity	Jacobson 1974
0.25 to 0.5 mile	Unknown	Unknown	General	Response to questionnaire provided to raptor experts	Fuller cited in Suter and Joness 1981
0.5 mile	Unknown	Unknown	General	Response to questionnaire provided to raptor experts	Howard cited in Suter and Joness 1981
0.12 to 0.31 miles	Unknown	Unknown	General	Response to questionnaire provided to raptor experts	Woffinden cited in Suter and Joness 1981
0.5 mile	February 1 to August 1	CO	Noise		Call 1979
0.31 to 0.5 miles	Any	Spain	Any	Imperial eagle, not golden eagle	Gonzalez et al. 2006
0.12 to 1 miles	March 1 to September 1	Western U.S.	Visual and audible disturbance		Suter and Joness 1981
Policy-Based Literature					
0.5 mile	February 1 to July 15	CO	Unknown		Craig 1995
0.6 mile	Unknown	UT	Geothermal drilling	No drilling	ERDA 1977
0.47 to 0.68 miles	Incubating and chick rearing period	United Kingdom	Any	Derived from a poll of expert opinion (n=32)	Ruddock and Whitfield 2007
0.19 miles	Breeding and winter	OR	Any	Buffer expected to prevent 90% of flushing	Watson and Whalen 2004
0.5 miles	January 15- July 31	WY	Wind energy	No disturbance	WGFD 2009

5.3.4 Bats

5.3.4.1 Collision

Bat mortality occurs at wind farms due to collisions with turbine blades and barotrauma (Kunz et al. 2007); barotrauma is the tissue damage to air-containing structures (lungs) that results from the rapid air-pressure reduction near moving turbine blades (Baerwald et al. 2008). Although studies of turbine-related bat fatality at wind energy sites are still in their infancy and comparisons among projects, particularly in the western U.S., are limited, migratory foliage- or tree-roosting bat species appear to be most susceptible to collision with wind turbines. These

species have experienced the highest fatality rates at wind energy facilities in North America, particularly during the late summer/early fall season when activity levels increase as these species migrate southward (Cryan 2003, Kunz et al. 2007, Arnett et al. 2008). Western-specific studies document *Myotis lucifugus, Lasiurus blossevillii*, *Lasiurus cinereus, Lasionycteris noctivagans*, *Eptesicus fuscus,* and *Tadarida brasiliensis* as fatalities during mortality surveys (Table 11). Few among these studies occurred within the range of *T. brasiliensis*, but of the 2 that did, *T. brasiliensis* averaged 63.5 percent of fatalities (Arnett et al. 2008). Specific details about the causal factors that influence high bat mortality at a particular wind farm remain unknown (Cryan and Barkley 2009).

Acoustic monitoring at the Project revealed the presence of 16 species of bats, including 4 which are commonly found as fatalities at wind projects (*L. cinereus, L. noctivagans, T. brasiliensis,* and *E. fuscus*). The relatively high species richness reflects the topographical diversity found at the Project, which includes a diversity of foraging and roosting habitats (O'Farrell 2010). The level of species richness may also be a result of intensive sampling over 2 full years, unlike many acoustic monitoring studies which are limited to certain seasons. In addition to the 4 species known to occur as turbine-related fatalities, 3 other high-flying species (*Eumops perotis*, *Nyctinopmops femorosaccus,* and *Nyctinomops macrotis*) were detected, and use at the Met High stations by various other species suggest some risk of collision to bat species using the Project area. Although the Project area contains attractant topographic and/or habitat features such natural springs and rocky outcrops, study results demonstrate that bats tend to move across the Project as if it were a landscape, generally moving toward Lake Mohave on a nightly basis for foraging and drinking. Overall bat use at the Project area can be described as low when compared to the potential bat activity at attractant features (e.g. washes). Although the data presented in Table 12 was collected at areas known to attract bats, it is provided as context for interpreting the bat activity (index of activity) in the Project area.

Table 11. Estimates of Mean Bat Fatalities Per Turbine and Per Megawatt at Wind Facilities in the Southwest or Arid Northwest

Wind Facility and State	Habitat	Estimated mean fatality/turbine/year	Estimated mean fatality/MW/year	Documented bat species fatalities
Biglow Canyon II, OR (Strickland et al. 2011)	Agriculture, Columbia Basin shrub-steppe	6.24	3.78	*L. cinereus*, *L. noctivagans,* unidentified *Myotis* spp.
High Winds, CA (Kerlinger et al. 2006a)	Agriculture, desert grasslands	3.63	2.02	*L. cinereus*, *T. brasiliensis, L. blossevillii, L. noctivagans*
Biglow Canyon I, OR (Jeffrey et al. 2009)	Agriculture, Columbia Basin shrub-steppe	3.29	1.99	*L. cinereus*, *L. noctivagans*
Nine Canyon, WA (Erickson et al. 2003a)	Agriculture, shrub-steppe, grassland	3.23	2.48	*L. cinereus*, *L. noctivagans*
Big Horn I, WA (Kronner et al. 2008)	Grassland, Agriculture	2.86	1.91	*L. cinereus*, *L. noctivagans, E. fuscus,* unidentified
Klondike III, OR (Gritski et al 2009)	Agriculture, Columbia Basin shrub-steppe	2.24	1.26	*L. cinereus*, *L. noctivagans, E. fuscus*
Elkhorn, OR (Jeffrey et al. 2009)	Agriculture, Columbia Basin shrub-steppe	2.07	1.26	*L. cinereus*, *L. noctivagans, M. lucifugus, E. fuscus*
Klondike, OR (Johnson et al. 2003)	Agriculture, Columbia Basin shrub-steppe	1.16	0.80	*L. noctivagans, L. cinereus*, unidentified *Myotis* spp.
Hopkins Ridge, WA (Young et al. 2007)	Agriculture, Mixed-grass prairie	1.13	0.63	*L. cinereus*, *L. noctivagans, E. fuscus, M. lucifugus*
Stateline, OR/WA 2003 (Erickson et al. 2004)	Agriculture, Columbia Basin shrub-steppe	1.10	1.70	*L. cinereus*, *L. noctivagans, M. lucifugus, E. fuscus*
Vancycle, OR (Erickson et al. 2000)	Agriculture, Columbia Basin shrub-steppe	0.74	1.12	*L. cinereus*, *L. noctivagans, M. lucifugus*
Stateline, OR/WA 2006 (Erickson et al. 2007)	Agriculture, Columbia Basin shrub-steppe	0.63	0.95	*L. cinereus*, *L. noctivagans*
Wild Horse, WA (Erickson et al. 2008)	Mixed grass prairie	0.70	0.39	*L. cinereus*, *L. noctivagans, M. lucifugus*

Table 12. Summary of Index of Activity (IA) from Acoustic Monitoring Results in Clark County, Nevada

Location	Total IA	*L. blossevillii*	*L. cinereus*	*T. brasiliensis*
Table Mountain *	75-345	0	1-11	1-83
Virgin River **	46,583	311	17	6,792
Halfway Wash **	17,420	44	0	1,986
Overton Wildlife Area **	254,487	29	128	63,456
LV Wash Downstream 2004 †	101,614	123	1,069	26,872
2005 †	76,134	13	296	32,065
LV Wash Midstream 2004 †	66,127	23	13	5,620
2005 †	28,594	240	9,852	4,353
LV Wash Upstream 2004 †	168,428	58	900	60,779
2005 †	95,305	85	258	43,706
Ash Meadows NWR 2007 ††	11,416	19	314	549
2008 ††	10,404	30	37	788
Searchlight Wind Energy Project‡				
MET 1 High 2008-2009	190	0	3	175
2009-2010	100	0	2	76
MET 1 Low 2008-2009	118	0	0.3	41
2009-2010	326	0.3	0.3	64
MET 3 High 2008-2009	117	0	3	83
2009-2010	119	0	1	102
MET 3 Low 2008-2009	333	0	1	137
2009-2010	497	0	1	146
MET 6 High 2008-2009	140	0	3	94
2009-2010	140	0.3	1	49
MET 6 Low 2008-2009	802	0	1	140
2009-2010	614	0	2	53
Stake 1 2008-2009	363	0	3	187
2009-2010	497	0.3	1	92
Stake 2 2008-2009	460	0	4	267
2009-2010	259	0	0	57
Stake 4 2008-2009	543	0	8	342
2009-2010	687	0	0.3	176
Total 2008-2009	2,985	0	26.3	1,466
Total 2009-2010	3,239	0.9	8.6	815

* O'Farrell 2007; values are the range for eight MET towers. Site considered devoid of conspicuous attractant features.
** O'Farrell 2006a; Halfway Wash considered devoid of conspicuous attractant features.
† O'Farrell 2006b
†† O'Farrell 2009b
‡ O'Farrell 2010; Project area considered devoid of conspicuous attractant features.

5.3.4.2 Disturbance/Displacement

Disturbance and displacement have not been identified as risks associated with bats and wind farms in reviews of bat/wind impacts (Kunz et al. 2007). The absence of concern with respect to wind development is likely due to the ability of bats to habituate to anthropogenic structures (Keeley and Tuttle 1999); however, one species detected at the Project, *M. thysanodes,* is known to be highly susceptible to human disturbance (O'Farrell and Studier 1980). There are known roosts at abandoned mine complexes within the Project as well as potential roosts within cliff-faces and rock crevices, both of which may be susceptible to human disturbance,

particularly during construction. The Project does have potential to disturb roosting habitat, but is less likely to disturb foraging habitat based on the lack of attractant features, the preference by some species to forage outside the Project, and the small area of permanent disturbance. This risk will be further reduced through measures taken during the design, construction, and operational phases of the Project (Sections 5.4, 6.1, 7.1).

5.3.4.3 Habitat Loss and Fragmentation

The impacts of habitat fragmentation from wind development on bats are not well-known (Kuvlesky et al. 2007). Both roosting and foraging habitat is available for several species of bats within the Project, but is mostly absent for other species (e.g. roosts for foliage-roosting bats, riparian foraging areas). Similarly, foraging habitat is less suitable for some species than areas outside of the Project like Lake Mohave. However, the Project has a relatively small footprint of temporary and permanent disturbance, and these areas are largely outside of suitable bat roosting and foraging habitat. Risk of habitat loss and fragmentation will be further reduced through measures taken during the design, construction, and operational phases of the Project (Sections 5.4, 6.1, 7.1).

5.4 Best Management Practices Implemented during Siting

Mitigation and minimization measures to avoid or significantly reduce impacts to avian and bat species that are incorporated into the planning and design for the Project (Table 13) are described in this section. These measures were derived from the USFWS (2011a) Draft Eagle Conservation Plan Guidance, the Searchlight Wind Energy Project DEIS (BLM 2011), and industry best management practices. The mitigation measures taken from the Project DEIS (e.g., MM-BIO or MM-VIS) are in draft form and will be updated accordingly when final measures are available. Measures derived from the DEIS (BLM 2011) include measures recommended or required by the BLM (e.g., MMVIS, MMBIO). BBCS measures are new measures proposed within this document. All mitigation measures proposed during the planning and design phase demonstrate and provide reliable and effective means to reduce impacts to avian and bat species and their habitats.

Table 13. Species that Would Benefit from Searchlight Wind Energy Project Avoidance and Minimization Measures During Project Planning and Design (with cross-reference to the Searchlight Wind Energy Project DEIS [BLM 2011])

Avoidance and Minimization Measures	Non-raptors	Raptors	Eagles	Bats	DEIS/BBCS Reference
Macro-siting			X		BBCS-1
Minimize Lighting	X	X	X	X	MMVIS-5
Transmission Line Design Following APLIC Guidelines	X	X	X	X	MMBIO-7
Collection Line Burial	X	X	X	X	BBCS-2
Bird Diverters on New Transmission Line	X	X	X		BBCS-3
Met Tower Design	X	X	X	X	BBCS-4

5.4.1 Macro- and Micro-siting

BBCS-1: Micro-siting to Avoid Eagle Impacts. Point count surveys indicate that golden eagles rarely fly through the Project (2 golden eagles seen flying in RSA in fall 2007, no eagles observed in any other survey season, Tetra Tech 2010). The Project was sighted in an area with a low density of golden eagle nests based on USFWS data and further confirmed by additional nest surveys (Tetra Tech 2011; Table 8).

5.4.2 Facility Design

MMVIS-5: Minimize Lighting**.** Efforts will be made to minimize the need for and amount of lighting on ancillary structures. When possible, lighting will be associated with motion sensors to minimize constant lighting effects. The only exterior lighting on the WTGs will be the aviation warning lighting required by the Federal Aviation Administration (FAA). The warning lighting will be the minimum required intensity to meet the current FAA standards. Outdoor night lighting at the O&M facility will be the minimum necessary for safety and security. All lights will be shielded to reduce offsite light pollution. Motion sensor lights will be used when possible.

MMBIO-7: Transmission Line Design. All overhead power lines will be designed using the Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006 manual (APLIC 2006) and Mitigating Bird Collisions with Power Lines: The State of the Art in 1994 (APLIC 1994).

BBCS-2: Collection Line Burial. Electrical collection lines will be buried underground to the extent practicable which will minimize bird collisions with the power lines.

BBCS-3: Met Tower Design. The permanent met towers (if needed) will be free-standing to avoid the collision risk associated with guy wires.

6.0 SITE CONSTRUCTION

6.1 Best Management Practices Implemented During Construction

This section identifies mitigation and minimization measures that will be incorporated during construction of the Project (Table 14). These measures were derived from the industry best management practices, the Searchlight Wind Energy DEIS (BLM 2011), and the USFWS Land-Based Wind Energy Guidelines USFWS (2012). These recommendations are thought to provide effective measures to reduce impacts to wildlife and their habitats during the construction of a wind energy facility. Measures derived from the DEIS (BLM 2011) include measures recommended or required by the BLM (e.g., MMWATER, MMBIO), as well as Applicant Proposed Measures (APM) which were voluntary measures proposed by Duke Energy Renewables. BBCS measures are new measures proposed within this document.

Table 14. Species that Would Benefit from Searchlight Wind Energy Project Avoidance and Minimization Measures During Construction (with cross-reference to the Searchlight Wind Energy Project DEIS [BLM 2011])

Avoidance and Minimization Measures	Non-raptors	Raptors	Eagles	Bats	DEIS Reference
Erosion Control	X				APM-1, MMWATER-2
Stormwater Pollution Prevention Plan	X	X	X	X	APM-4
Spill Prevention and Countermeasures Plan	X			X	APM-5
Waste Management Plan	X	X			APM-8
Weed Control Plan	X	X	X	X	APM-9
Develop BBCS	X	X	X	X	MMBIO-5
Avoid Bird Nesting Impacts	X	X	X		MMBIO-5
Burrowing Owl Survey		X			MMBIO-6
Minimize Lighting	X	X	X	X	MMVIS-5
Trash and Litter Control	X	X	X		BBCS-4
Carrion Control		X	X		BBCS-5
Annual Wildlife Training	X	X	X	X	BBCS-6
Speed Limits	X	X	X	X	BBCS-7
Monitoring of Overnight Hazards	X	X	X	X	BBCS-8
Environmental Manager	X	X	X	X	BBCS-9
Special-status Species Monitor	X	X	X	X	BBCS-10
Special-status Species Consultation	X	X	X		BBCS-11
Marking of Sensitive Areas	X	X	X	X	BBCS-12
Pre-construction Surveys	X	X			BBCS-13
Monthly Compliance Reports	X	X	X	X	BBCS-14
Minimize Disturbance Impacts	X	X	X	X	BBCS-15
Pesticide Use Per Recommendations	X	X	X	X	BBCS-16
Removal of Hollow Plastic Mine Markers	X				BBCS-17

The APMs, although not specific to wildlife, will provide broad benefits in the form of minimizing disturbance to the area. The APMs for construction are:

APM-1: Erosion Control

APM-4: Stormwater Pollution Prevention (SWPP) Plan

APM-5: Spill Prevention and Countermeasures Control (SPCC) Plan

APM-8: Waste Management Plan

APM-9: Weed Control Plan

In addition to the APMs, mitigation measures in the DEIS and provided in this document will further minimize impacts to wildlife.

MMWATER-2: Construction phase erosion and sedimentation control measures. The Applicant will develop and implement erosion and sedimentation control measures to be used to minimize impacts during the construction of the Project. At a minimum, this plan will include the following:

Implement soil stabilization measures to offset loss in vegetation including the following best management practices (BMPs):

- Install silt fences
- install temporary earthen berms,
- install straw bale barriers to reduce water velocity and flows,
- install temporary water bars,
- install sediment traps,
- install stabilized entrances from public roads to minimize track-out
- stone check dams, or other equivalent measures (including installing erosion-control measures around the perimeter of stockpiled fill material) as necessary;

Maintain or reduce salt yields originating from public lands to meet State-adopted and Environmental Protection Agency-approved water quality standards for the Colorado River (BLM 1998);

Implement BMPs, as identified by the state of Nevada, to minimize contributions from both point and non-point sources of pollution (including salts) from public lands (BLM 1998);

Ensure that any nonpoint source BMPs and rehabilitation techniques meet state and local water quality requirements (BLM 2005);

Implement BMPs such as locating waste and excess excavated materials outside drainages to avoid sedimentation;

Conduct regular site inspections during the construction period to see that erosion-control measures were properly installed and are functioning effectively;

Consider use of landscape for buffering, erosion control, and stormwater runoff control for maintaining acceptable water quality conditions (Clark County 2008);

Obtain and comply with necessary permits in accordance with the Clean Water Act Section 404 (dredge and fill) and Section 401 (water quality) from the USACE and NDEP (NDEP 2010; and

Implement adaptive management of actions if erosion and sedimentation control measures are found to be insufficient to control surface water at the site (any changes must be approved by the BLM).

<u>MMBIO-5: Bird and Bat Conservation Strategy.</u> A BBCS will be developed for the proposed Project. The BBCS will provide for pre-construction surveys, post-construction monitoring, and adaptive management measures. During pre-construction surveys, biological monitors will also

look for bird nests within the proposed Project area. If an active nest is located, Duke will notify BLM and/or NDOW to determine an appropriate buffer distance for avian species found, typically at around 30 m (100 feet) from the nest. As it is not possible to quantify effects on bats and birds based on pre-project surveys, post-construction monitoring will be implemented. The BBCS will define thresholds of adverse effects; for every threshold that is exceeded, a mitigation strategy will be employed.

MMBIO-6: Burrowing Owl Protection During Construction. For burrowing owls, biological monitors will use USFWS survey methods and mitigation measures presented in Protecting Burrowing Owls at Construction Sites in Nevada's Mojave Desert Region (USFWS no date specified).

MMVIS-5: Minimize Lighting. Efforts will be made to minimize the need for and amount of lighting on ancillary structures. When possible, lighting will be associated with motion sensors to minimize constant lighting effects. The only exterior lighting on the WTGs will be the aviation warning lighting required by the FAA. The warning lighting will be the minimum required intensity to meet the current FAA standards. Outdoor night lighting at the O&M facility will be the minimum necessary for safety and security. All lights will be shielded to reduce offsite light pollution. Motion sensor lights will be used when possible.

BBCS-4: Trash and Litter Control (also contained in MMBIO-3). Trash and food items will be disposed of properly in predator-proof containers with resealing lids. Trash will be emptied and removed from the Project site on a periodic basis. Trash removal reduces the attractiveness of the area to opportunistic predators such as ravens, coyotes, and foxes.

BBCS-5: Carrion Control: Dead animals or animal parts (e.g., gut piles or carcass remains) will be removed immediately to prevent the attraction of vultures, GOEAs or other scavengers.

BBCS-6: Annual Wildlife Training. See Section 9.2

BBCS-7: Speed Limits (also contained in MMBIO-3). A speed limit of 15 miles per hour will be maintained while on the construction site, access roads, and storage areas April 1 – May 30, and September 1 – October 31. Vehicular speed limits will not exceed 20 miles per hour during other times of the year.

BBCS-8: Monitoring of Overnight Hazards (also contained in MMBIO-3). No overnight hazards to wildlife (e.g., auger holes, trenches, pits, or other steep-sided depressions) will be left unfenced or uncovered; such hazards would be eliminated each day prior to the work crew and biologist leaving the site. All excavations will be inspected for trapped wildlife at the beginning, middle, and end of the work day, at a minimum, but will also be continuously monitored by the authorized biologist. Should wildlife become entrapped, the authorized biologist will remove it immediately.

BBCS-9: Environmental Manager. See section 6.2.

BBCS-10: Special-status Species Monitor. Qualified biologists shall monitor all construction activities where prior surveys have documented the occurrence of one or more special status species. In conjunction with the Environmental Manager, the biologist shall have the authority to

halt all non-emergency actions that might result in harm to a special status species, and shall assist in the overall implementation of protection measures for such species during proposed Project operations. Emergencies are defined as situations or issues involving human health and safety.

BBCS-11: Special Status Species Consultation. If a special status species is located during construction, and a contingency for avoidance, removal, or transplant has not been approved by the appropriate agency, contractors and employees shall not proceed with the proposed Project activity until specific consultation with the appropriate agency is completed and work continuance has been approved by the appropriate agency.

All encounters with special status species shall be reported to the qualified biologist. The observer is responsible for providing the following information to the biologist, who shall record it:

Species name;
Location (narrative and maps) and dates of observations;
General condition and health, including injuries and state of healing; and
Diagnostic markings, including identification numbers or markers.

Upon locating a dead or injured special status species, an authorized biologist shall be notified. The biologist will notify the appropriate agency. Verbal communication to the wildlife agencies shall take place as soon as possible, and written notification must be made within 15 business days of the date and time of the finding or incident (if known). The notification must include: location of the carcass, a photograph, cause of death (if known), and other pertinent information such as corrective measures implemented to avoid future injury/death.

BBCS-12: Marking of Sensitive Areas. Prior to construction, environmentally sensitive areas (e.g., Joshua trees, aquatic resource areas, nests, etc.) that are to be protected in place and remain undisturbed during construction shall be staked, flagged, fenced, or otherwise conspicuously demarcated in the field.

BBCS-13: Pre-construction Surveys. A pre-construction survey of each proposed Project activity located within areas identified during surveys as special status species habitat shall be conducted by a qualified biologist no more than 7 days prior to the onset of activities.

BBCS-14: Monthly Compliance Reports. Monthly compliance reports shall be provided to the BLM during the construction phase of the proposed Project. Within 90 days of completion of construction, a post-construction report shall be prepared and submitted to the BLM. The report shall include photographs taken before, during, and after construction and a discussion of the proposed Project's compliance with the biological mitigation measures.

BBCS-15: Minimize Disturbance Impacts. Vegetation removal shall be limited to the minimum area needed to construct the proposed Project and shall be restricted in environmentally sensitive areas. During construction, travel and equipment staging shall be restricted to designated access roads and work areas to minimize vegetation disturbance. The extent of these areas shall be shown on the construction plans and clearly demarcated in the field with

stakes, flagging, or fencing. Any straying outside of the approved construction footprint shall be reported to the BLM as soon as possible after occurrence.

BBCS-16: Pesticide Use per Recommendation. Use of pesticides, herbicides, fertilizers, and other chemicals will be in strict accordance with federal and state laws.

BBCS-17: Removal of Hollow Plastic Mine Claim Markers. Upon detection of an uncapped hollow plastic mine claim marker found within the Project area, construction personnel will inform a Special Status Species Monitor or the Wildlife Coordinator, of the location of the marker. The Monitor or Coordinator will remove the marker and place it on the ground at the location from which it was removed.

6.2 Environmental Manager during Construction

BBCS-9: Environmental Manager. An Environmental Manager or Compliance Inspection Coordinator shall be hired by Duke Energy Renewables and be responsible for overseeing the proposed Project's environmental protection measures throughout the construction phase. At least one qualified biologist approved by BLM and USFWS shall also be available and responsible for identification of habitat and individual special-status species as needed during construction and operation. The biologists shall, if needed, hold the required permits or MOUs with appropriate Federal and State agencies for the survey for or handling of any listed species. The Environmental Manager shall be responsible for ensuring that Duke Energy Renewables and its contractors comply with environmental (including wildlife) laws and regulations, as well as monitor compliance with all avoidance and minimization measures. This includes posting signs and ensuring that workers respect sensitive biological areas, such as desert tortoise burrows and raptor nests.

7.0 POST-CONSTRUCTIONAL/OPERATIONAL PHASE

The purpose of post-construction monitoring is to compare data collected post-construction to data collected pre-construction in order to evaluate the effectiveness of mitigation measures, and assess fatalities. Additional objectives are to: 1) compare observed/corrected fatality rates to the assessed risk to species based on results of pre-construction surveys risk, and 2) determine if avoidance, minimization and mitigation measures were appropriate and adequate.

7.1 Best Management Practices during Operation

This section summarizes measures that will be taken to avoid and minimize impacts to wildlife during long-term operation of the Project (Table 15) and are applicable to operations and maintenance staff only.

The APMs, though not specific to wildlife will provide broad benefits in the form of minimizing disturbance to the area. The APMs during operation are:

APM-9: Weed Control Plan
APM-10: Site Rehabilitation Plan and Facility Decommissioning Plan

In addition to the APMs, mitigation measures in the DEIS and provided in this document will further minimize impacts to wildlife.

Table 15. Species that Would Benefit from Searchlight Wind Energy Project Avoidance and Minimization Measures during Operations (with cross-reference to the Searchlight Wind Energy Project DEIS [BLM 2011])

Avoidance and Minimization Measures	Non-raptors	Raptors	Eagles	Bats	DEIS Reference
Weed Control Plan	X	X	X	X	APM-9
Site Rehabilitation Plan	X	X	X	X	APM-10
Minimize Lighting	X	X	X	X	MMVIS-5
Trash and Litter Control	X	X	X		BBCS-4
Carrion Control		X	X		BBCS-5
Annual Wildlife Training	X	X	X	X	BBCS-6
Speed Limits	X	X	X	X	BBCS-7
Monitoring of Overnight Hazards	X	X	X	X	BBCS-8
Environmental Inspector	X	X	X	X	BBCS-9
Pesticide Use Per Recommendations	X	X	X	X	BBCS-16
Removal of Hollow Plastic Mine Markers	X				BBCS-17
Prohibit Pets	X	X	X	X	BBCS-18
Annual Biological Report	X	X	X	X	BBCS-19
Minimize Wildfire Potential	X	X	X	X	BBCS-20
Disposal of Carcasses		X	X		BBCS-21

MMVIS-5: Minimize Lighting. Efforts will be made to minimize the need for and amount of lighting on ancillary structures. When possible, lighting will be associated with motion sensors to minimize constant lighting effects. The only exterior lighting on the WTGs will be the aviation warning lighting required by the FAA. The warning lighting will be the minimum required intensity to meet the current FAA standards. Outdoor night lighting at the O&M facility will be the minimum necessary for safety and security. All lights will be shielded to reduce offsite light pollution. Motion sensor lights will be used when possible.

BBCS-4: Trash and Litter Control (also contained in MMBIO-3). Trash and food items will be disposed of properly in predator-proof containers with resealing lids. Trash will be emptied and removed from the Project site on a periodic basis. Trash removal reduces the attractiveness of the area to opportunistic predators such as ravens, coyotes, and foxes.

BBCS-5: Carrion Control: Dead animals or animal parts (i.e. gut piles or carcass remains from harvested big game) will be removed immediately to prevent the attraction of vultures, GOEAs or other scavengers.

BBCS-6: Annual Wildlife Training. See Section 9.2

BBCS-7: Speed Limits (also contained in MMBIO-3). A speed limit of 20 miles per hour during operation with further restriction to 15 mph April 1- May 31, and September 1- November 1.

BBCS-8: Overnight Hazards (also contained in MMBIO-3). No overnight hazards to wildlife (e.g., auger holes, trenches, pits, or other steep-sided depressions) will be left unfenced or uncovered; such hazards will be eliminated each day prior to the work crew and biologist leaving the site. All excavations will be inspected for trapped wildlife at the beginning, middle, and end of the work day, at a minimum, but will also be continuously monitored by. Should wildlife become entrapped, the authorized biologist will remove it immediately.

BBCS-9: Environmental Inspector. See Section 10.5

BBCS-16: Pesticide Use per Recommendation. Use of pesticides, herbicides, fertilizers, and other chemicals will be in strict accordance with federal and state laws.

BBCS-17: Removal of Hollow Plastic Mine Claim Markers. Upon detection of an uncapped hollow plastic mine claim marker found within the Project area, construction personnel will inform a Special Status Species Monitor or the Wildlife Coordinator, of the location of the marker. The Monitor or Coordinator will remove the marker and place it on the ground at the location from which it was removed.

BBCS-18: Prohibit Pets. Domestic pets shall be prohibited from proposed Project work areas.

BBCS-19: Annual Biological Report. An annual report shall be submitted to the BLM, NDOW, and USFWS discussing continued implementation of biological mitigation measures.

BBCS-20: Minimize Wildfire Potential. Fire prevention measures will be implemented during operation to minimize wildfire potential.

BBCS-21: Disposal of Road-killed Animals and Other Carcasses. Road-killed animals or other carcasses (non-bird) detected by personnel on or near roads within the Project will be reported and removed promptly to avoid attracting eagles and other raptors to the Project

7.2 Proposed Fatality Monitoring Study (Tier 4a)

7.2.1 Avian and Bat Fatality Study

The primary objective of the fatality monitoring study is to estimate avian and bat mortality at the Project and determine whether the estimated mortality is lower, similar, or higher than the average mortality observed at other regional projects or if species of concern are impacted. The monitoring study will begin after all the turbines in each phase are fully operational. The study will be conducted for two years, followed by a Technical Advisory Committee (TAC) review of findings and recommendations on additional monitoring. Twenty-six turbines will be searched. Searches are proposed to be conducted weekly during the spring and fall migration and every 10 days during the remainder of the year. Experimental bias trials will be conducted to account for searcher efficiency and carcass removal rates. More details of the fatality monitoring protocol can be found in Appendix B.

The scope and duration of the fatality monitoring study was developed to be consistent and within the range of monitoring programs that have or will be conducted at other wind projects in the western United States. The proposed methods for estimating avian and bat mortality from

the Project: 1) conform to the industry standard in the western US; 2) provide much more accurate and less variable estimates of avian and bat mortality, especially during migration seasons, due to increased frequency of surveys; and 3) will provide the NDOW and USFWS with good baseline data on avian and bat fatality rates at the Project.

7.3 Role of Technical Advisory Committee

A Technical Advisory Committee has been established to act as an advisory group on the wildlife post-construction monitoring studies. The TAC is comprised of representatives from BLM, USFWS, NDOW, and Duke Energy Renewables. The TAC will review the technical procedures of the monitoring studies, assess the scientific findings, and recommend various practices or measures, as necessary, to Duke Energy Renewables.

The TAC's responsibilities include the following:

- Reviewing and commenting on the raptor nest study;
- Reviewing and commenting on the avian and bat fatality monitoring study;
- Reviewing and commenting on the avian point count and bat acoustic monitoring studies;
- Providing input to Duke Energy Renewables on additional monitoring needs, adaptive management and mitigation, based on the post-construction monitoring results and fatality estimates.

The TAC will use a collaborative process to reach understanding and consensus on reviews and recommendations. The TAC does not replace regulatory authority or responsibility of the various agencies or groups. A third-party coordinator may assist Project with planning and arrangements for meetings, and with briefing and reporting to TAC members.

Duke Energy Renewables will submit quarterly fatality updates to the TA for up to three years of post-construction, including prior to commencement of formal mortality monitoring. In addition to reporting mortality monitoring progress, the quarterly fatality updates will inform of large bird and/or bat fatalities detected by Project personnel outside of established dates of formal mortality monitoring. In addition, an annual report of findings will be prepared at the end of each year of monitoring and will be distributed to the members of the TAC. The TAC will meet after the first monitoring report is submitted to discuss the results. The need for further study or changes to the current protocol will be based on reasonable criteria proposed by the TAC. A final report on study results will be submitted to the TAC, as appropriate, for review and subsequent discussion on mitigation recommendations.

Draft meeting minutes will be completed within two weeks of each meeting. Minutes will be forwarded to TAC members for review and comment. Minutes will be approved and finalized at the subsequent meeting. Depending on the group's preferences, meetings may be in person or by conference call. Monitoring findings (summarized per season or semi-annually) and other pertinent information (unusual findings or events) will be transmitted via hard copy, e-mail, or phone call, as necessary.

7.4 Adaptive Management

Duke Energy Renewables has implemented adaptive management at the Project throughout the pre-construction baseline data collection, siting, construction and operation planning, and planning of post-construction monitoring efforts. Duke Energy Renewables, in coordination with the BLM, NDOW, and the USFWS, has used the results of the baseline wildlife studies to implement wildlife avoidance measures (e.g., setbacks and timing stipulations). Duke Energy Renewables has also implemented BMPs during siting, and will continue to do so during construction, and operation of the Project. The effectiveness of the management decisions made to date (e.g., siting decisions, wildlife avoidance measures, and BMPs) will be evaluated throughout the Tier 4 post-construction monitoring efforts.

Adaptive management will focus on 'species of concern' as identified in the Wind Energy Guidelines. Species of concern refer initially to those with special status designation and are identified in Tables 4 and 6. However, if fatalities resulting from the Project operation are determined to significantly affect a species not identified in Tables 4 and 6, it will be considered a species of concern; and adaptive management measures will be implemented. Depending on the results of the Tier 4 post-construction monitoring studies, no further action may be warranted if impacts are negligible and/or determined to be at an acceptable level. If impacts are determined to be at an unacceptable level, an assessment of why impacts are occurring will be conducted to aid in developing appropriate actions to further avoid, minimize or mitigate the impacts. If causation for impacts is unknown, further monitoring efforts may be implemented to help understand impacts. The determination of acceptable level of impact will be discussed by the TAC. The TAC will help to determine the appropriate mitigation measures to implement to address impacts. Once measures to avoid, minimize and mitigate impacts are put into place, additional monitoring to determine the effectiveness of these measures will be conducted, and, depending on the results, further remedial measures may/may not be necessary.

Based on the Tier 3 pre-construction evaluation and design measures implemented during siting, construction, and operation, Duke Energy Renewables anticipates the impacts to birds and bats will be low. Based on the anticipated impacts, Duke Energy Renewables has developed a suite of adaptive management measures to avoid, minimize and mitigate impacts to birds and bats particularly as a result of turbine related fatalities. The objective is to provide a 'basket' of options from which the TAC can select to address higher than expected impacts to species of concern. The potential adaptive management measures to avoid, minimize and mitigate impacts include:

<u>Curtailment</u>

- Curtailment will be considered if, after 2 years of PCMM data, significant temporal or spatial patterns of fatalities of species of concern are detected. Data will be evaluated to determine if there are specific time periods or turbines when larger numbers of fatalities are detected. A large fatality event will be subjective, but by using both years of data, we can determine if the pattern is consistent.

- If specific time periods or turbines have higher than normal fatalities, curtailment during those periods or at specific turbines will be implemented.
    - For bat species of concern – cut-in speed will be increased to 5.0 m/s during identified times or turbines from dawn until dusk and will not exceed 500 hours of cut-in speed curtailment.
    - For bird species of concern – shutdown curtailment will be developed to address large fatality events at specific turbines, time periods or weather conditions and will not exceed 500 hours of shutdown curtailment.

Other Technologies

- Other technologies will be evaluated and considered. Technologies such as radar, cameras, visibility monitors, acoustic deterrents (for bats) or a combination of such technologies will be evaluated to determine their efficacy for the specific issue.

7.4.1 Eagles

Searchlight Wind has taken several steps to reduce risk to golden eagles (see Tables 13-15 above), and based on the weight of evidence from field data, fatalities are predicted to be low. However, due to the uncertainty of these types of estimates, Searchlight Wind will adaptively manage potential impacts. During the first two years of operation in conjunction with the Tier 4a mortality studies, eagle use surveys will be conducted following the methods described in the Eagle Conservation Plan Guidance Technical Appendices (USFWS 2012b). If golden eagle use increases significantly, Duke Energy Renewables will notify BLM, USFWS, and NDOW for coordination. Collectively, a plan will be implemented to try to determine the cause of the increased eagle use and if this increase in use is presenting a higher risk to golden eagle. If a golden eagle fatality occurs, Searchlight Wind will notify BLM, USFWS, and NDOW within 24 hours and will work with the TAC to determine the appropriate adaptive management strategies to be implemented. Searchlight Wind will follow the steps outlined in Table 16 to address adaptive management of eagles.

7.4.2 Other Birds

After the completion of post-construction mortality monitoring, a report summarizing the number and species found as fatalities; the estimates of total fatalities for the Project adjusted for carcasses removal rates and searcher efficiency; and any incidental fatality observations will be provided to the TAC. The TAC will review this report and provide guidance to Searchlight Wind LLC on whether additional years of post-construction mortality monitoring surveys or species-specific mitigation are recommended based on the observed fatality rates.

7.4.3 Bats

After the completion of post-construction mortality monitoring, a report summarizing the number and species found as fatalities; the estimates of total fatalities for the Project adjusted for carcasses removal rates and searcher efficiency; and any incidental fatality observations will be provided to the TAC. The TAC will review this report and provide guidance to Searchlight Wind LLC on whether additional years of post-construction mortality monitoring surveys or species-specific mitigation are recommended based on the observed fatality rates.

Table 16. Summary of Advanced Conservation Measures using a Step-wise Approach: to be implemented when eagle take occurs

Step	Advanced Conservation Measures	Threshold or Trigger
Step I	Initiate consultation with the TAC to illuminate appropriate conservation measures to minimize likely hood of existing take. Mortality monitoring, using approved protocol for 3 consecutive years.	One eagle taken.
Step II	Initiate advanced conservation measures involving visual and/or auditory deterrence procedures and consultation with TAC to design a protocol to evaluate effectiveness of these methods. Intensify eagle monitoring studies to define seasonal and diurnal flight patterns within the project area to inform development/ implementation of future ACPs. Conduct three years mortality monitoring to evaluate effectiveness of deterrence methods.	Two eagles taken within any 12 month period or three eagles taken within a 5 year period.
Step III	Biological Monitors or a radar system(s) will be employed on site during day light hours and have the ability to curtail turbine(s) when an eagle/large raptor approaches the RSA. A sufficient number of qualified monitors/ radar units will be stationed throughout the site, so as to provide unimpeded views of eagles/large raptors that may approach within one mile of any turbine. Additionally, monitors will be employed to report/remove carrion located on site and report any eagle take. Initiate consultation with TAC to refine and evaluate the curtailment protocol utilizing data from monitoring efforts initiated in Phase II Extend or reinitiate eagle movement studies and mortality monitoring by three years.	Three eagles taken within any 12 month period or four eagles taken within any 5 years period.
Step IV	Deploy radar system(s) designed to curtail turbine blade rotation as eagle(s)/large raptors approach. In consultation with the TAC design and implement a protocol for determining the effectiveness of a radar system(s). Conduct a minimum of three years mortality monitoring to evaluate effectiveness of radar system at reducing eagle take.	Four eagles taken within any 12 month period or five eagles taken within any 5 years period.
Step V	In consultation with the USFWS and BLM, determine other appropriate actions necessary to minimize and compensate for additional impacts to eagle populations.	Five eagles taken within any 24 month period or six eagles taken within the first 5 years of operations.

7.5 Other Proposed Post-Construction Studies (Tier 5)

7.5.1 Golden Eagle Nests

Searchlight Wind will monitor the activity of golden eagle nests during construction and for 2 years following construction to determine the occupancy and productivity of golden eagles nesting within the vicinity of the Project. Follow up nest monitoring surveys will include coverage of the entire Project area in order to locate and document nesting activity that may have been missed during initial surveys or can be attributed to new golden eagle pairs or existing pairs that have moved to a new nesting location. The follow up survey will be conducted by helicopter given the limited access and topography. Two confirmed golden eagle nests and 1 probable golden eagle nest located in 2011 will be visited during construction and post-construction. The nest monitoring effort is to provide data for the USFWS and NDOW and is not intended to determine if the Project affects golden eagle nesting. Golden eagles might not nest every year and nesting activity is driven by rainfall and food availability. If available, and in lieu of post-construction nest monitoring, Searchlight Wind will provide monetary support for a larger-scale research effort that addresses golden eagle nesting success.

7.5.2 Bird Point Counts

Post-construction bird point count surveys will be conducted for two years to develop an understanding of bird activity patterns and how they relate to bird fatality patterns. Counts will be conducted at points 1, 2b, 3a, 6, 8, 19, 14a, and 16, which occur in areas of turbine development. Surveys will be conducted in the spring and fall following the same methods used to collect pre-construction data.

7.5.3 Bat Acoustical Monitoring

Post-construction bat acoustic surveys will be conducted for two years to develop an understanding of bat activity patterns and how they relate to bat fatality patterns. Acoustic detectors will be placed on two Met towers, one in the northern area (Met 6) of the project and southern end of the project area (Met 3). If these Met towers are removed, alternative sampling locations will be selected. Data will be collected using the same methods used to collect pre-construction data. After a year of post-construction bat activity and bat fatality monitoring, the TAC will review the results to determine if a second year of acoustic monitoring surveys is warranted. However, at this date, the conditions that would warrant a second year of surveys have not yet been determined.

8.0 REPORTING

8.1 Pre-Construction

Duke Energy Renewables has met with the BLM, NDOW, and USFWS on multiple occasions since 2008 to discuss proposed baseline wildlife study protocols, wildlife study results, implications for Project impacts to wildlife and habitats, and potential mitigation measures (Table

1). In addition, results of the final wildlife baseline study efforts were made publicly available within the DEIS (BLM 2011).

8.2 Construction

Monthly compliance reports shall be provided to the BLM during the construction phase of the proposed Project. Within 90 days of completion of construction, a post-construction report shall be prepared and submitted to the BLM (BBCS-14). The report shall include photographs taken before, during, and after construction and a discussion of the proposed Project's compliance with the biological mitigation measures.

8.3 Post-Construction

An annual report shall be submitted to the BLM, NDOW, and USFWS discussing continued implementation of biological mitigation measures (BBCS-18). Fatality summaries will be provided seasonally to the TAC.

9.0 TRAINING OF PERSONNEL

9.1 New Employee Orientation Program

The workforce at the Project is required to attend a new employee orientation program. Employees are provided information to enhance wildlife awareness, minimize impacts to wildlife, and understand their role in compliance with the Project permit conditions and commitments. Additionally, personnel are instructed on what to do when encountering dead or injured wildlife.

9.2 Annual Wildlife Training (BBCS-6)

All wind site personnel and contractors, except temporary contractors that are escorted by trained personnel, are required to have Duke Energy's Wildlife Incident Monitoring and Reporting System training (see Section 10; BBCS-6). This training is based on the Migratory Bird Treaty Act training given to Duke Energy generation and distribution employees but has been tailored to the special needs of the wind sites. The training will consist of an initial instructor led training with an annual refresher CBT. Instructor led training will be required every three years or as necessary. Special emphasis will be placed on protection measures developed for the desert tortoise and the consequences of non-compliance. Written material will be provided to employees at orientation and participants will sign an attendance sheet documenting their participation.

Wildlife Coordinators and Operations technicians (those performing the turbine surveys) will be required to have instructor-led field training. This will consist of on-the-job training with a Duke Energy Scientific Services biologist and the Operations technician performing turbine surveys in the field.

10.0 WILDLIFE INCIDENT MONITORING AND REPORTING SYSTEM (WIMRS)

The Wildlife Incident Monitoring and Reporting System (WIMRS) has been developed to provide the Duke Energy Renewables operating wind facilities with the tools to support a responsible wildlife management program through adaptive management measures as necessary to reduce impacts (see Section 7.4). WIMRS is not a static program but will evolve as information is provided by the site personnel and the wind industry on data collection methods, frequency of surveys, and the value provided by the program to the wind site and the industry in general.

WIMRS, through operational monitoring is intended to build on the baseline of data provided by post construction monitoring. The data gathered through WIMRS provides further information on trends, approximations on the number of fatalities, the location of those fatalities and the overall species composition of the wildlife at risk. This information will provide data to allow the wind sites to adapt to wildlife issues and prevent them in the future.

Operational monitoring is a series of long-term (five-year increments) standardized surveys using Operations personnel. It systematically monitors and reports wildlife fatalities and incidents to assess long-term operational impacts (trends) of the Project. At approximately five-year intervals, an analysis of trends will be conducted to assess impacts of the Project and evaluate the value of continued monitoring.

The surveys will consist of both incidental observations as well as structured observations timed to coincide with the sites Spill Prevention, Control and Countermeasures (SPCC) inspections. They will be tracked through an in-house environmental data management system using an electronic incident reporting form (Appendix C). Information will be gathered using GPS, cameras, trained operations technicians, and Duke Energy Environmental Services biologists and biological consultants.

10.1 Wildlife Coordinator

A key resource for implementation of the operational monitoring is the onsite operations technician that is designated as the Wildlife Coordinator (WC) or Wildlife Lead. The WC acts as the on-site environmental representative for wildlife issues and implementation of the WIMRS at the site. The duties of the WC include supporting the Site Manager and Operations personnel with wildlife related issues at the Project. The WC will work with a Duke Energy biologist or the EHS Coordinator on wildlife issues. Over time, the WC will be trained and become more familiar in bird and bat identification, reporting, and other procedures to comply with state and federal permits. The WC will be supported with various job aids and access to technical assistance from Duke Energy biologists or biological consultants.

Duke Energy biologists or biological consultants shall coordinate the reporting and collection of state endangered, threatened, sensitive, or other state-protected species with local wildlife agencies. Duke Energy biologists or biological consultants shall coordinate the reporting and collection of federally listed endangered or threatened species and Migratory Bird Treaty Act protected avian species with the USFWS.

The WC will obtain a scientific collecting permit for the project so that bat carcasses found as fatalities can be collected and used in trails (see Appendix B).

10.2 Voluntary Operational Monitoring Reporting Criteria

Depending on the type of incident, reporting may simply consist of a WIMRS report. The following criteria should be used to determine whether a Wildlife Hotline (refer to section 10.7 for Wildlife Hotline numbers) call is necessary or not:

Note: Handling of dead birds is prohibited unless the site has first obtained all necessary State and Federal permits. Handling of any dead birds (if permitted) or bats should be done with proper PPE (gloves).

Call the Wildlife Hotline for the following incidents (all incidents should be reported to the site manager and wildlife coordinator):

Dead or injured eagles, raptors or owls,
Any uncertainty about a rare, threatened, endangered, or species of concern (RTE),
A dead or injured RTE,
A sighting of an RTE that is not commonly seen on the site,
More than 3 dead or injured birds or bats found at a single turbine,
Any large scale fatality event at the site, e.g. 5 or more fatalities site wide,
Newly constructed raptor nests,
Old, historically inactive raptor nests that have recently become active,
Raptor activity at raptor nest structures or other manmade habitat enhancements.

Complete the WIMRS form and submit with photographs for the following wildlife incidents (all incidents should be reported to the site manager and wildlife coordinator):

Incidental bird and bat fatalities, defined as a single fatality that does not meet a requirement described above,
Observations of fox or coyote dens, prairie dog towns (that didn't exist before), active nests that are not hazardous to operations, etc.

10.3 Incidental Observations

All personnel shall be familiar with the wind site and the wildlife that may be expected on the site. All travels on the site and visits to wind turbines should include a visual scan of the area keeping an eye out for dead birds or bats. Turbine visits should include a visual scan of the gravel area and access road. When conditions permit (no crops or other vegetation blocking view) a visual scan of the surrounding area should also be performed.

Large raptors and eagles are generally easy to spot and require immediate reporting to the Wildlife Hotline. All bats and smaller birds should be reported to the site manager, the WC and the WIMRS reporting process per the guidance above.

10.4 Turbine Surveys

Trained Operations technicians will perform a pad check during monthly SPCC inspections. This will consist of a check around the turbine pad, transformer and access road. Turbine surveys should be more thorough than incidental observations. Large raptors and eagles should be reported to the Wildlife Hotline as soon as possible. All bats and smaller birds should be reported to the site manager, the WC and the WIMRS reporting process per the guidance above.

The recommended method of performing a turbine survey is to walk around the base of the turbine, the transformer, the outside edge of the pad and approximately 60 meters of the access road. A visual scan should be performed to approximately 4 meters on the outside of the pad and both sides of the road.

Always ensure safety prior to performing the pad check. All turbines generally have an open area that can be searched with little difficulty. Technicians need not walk through brambles, briars; risk a snake encounter or other site hazards. Seasonal hazards (e.g. ice) may make some turbines too dangerous to search and some areas may be considered unsearchable for safety reasons.

Note that turbine surveys will not begin at a wind site until post-construction monitoring is complete. However, incidental observations by site personnel will be performed. Incidental finds are an important part of the post-construction monitoring.

10.5 Environmental Services Inspections (BBCS-9)

A biologist from Duke's Environmental Services group may inspect the turbines. Some sites will be inspected more frequently depending on data gathered through the incidental observations, turbine checks or other wildlife issues/incidents at the site. These inspections will be more thorough and formal than the regular turbine checks. Protocols for these inspections will follow best practices and standards as prescribed by state and federal agencies and the wind industry.

10.6 Poster

In addition to formal training, Project buildings will have a poster (Appendix D) displayed in prominent places. The purpose of this poster is to remind employees of their personal responsibility and the corporation's responsibility to comply with migratory bird and other wildlife-related laws. Posters also list a phone number to call for assistance when encountering avian or bat issues.

10.7 Contact Information

The Wildlife Hotline should be contacted per the reporting criteria given above.

Greg Aldrich (704) 430-7946 (call or text)
(Primary Contact)

Scott Fletcher (704) 956-1315
(Secondary Contact)

The Duke Energy Renewables' reporting process is documented in a flowchart (Appendix E). Each employee receives detailed instruction on the process when trained and receives a copy of the flowchart.

11.0 INTERNAL AUDITING

Project will be subjected to auditing by Duke Energy Corporate EHS auditing group. This group will audit various aspects of the Project by examining training records, ensuring posters are visible, and quizzing employees about their knowledge of bird and bat reporting requirements. This audit may also include examination of the record keeping of reported bird mortalities. Any audit findings will follow Duke Energy Corporate EHS audit procedures that include follow-up and corrective action measures.

12.0 PUBLIC OUTREACH AND EDUCATIONAL PLANS

It is continually important that Duke Energy Renewables operates its facilities in an environmentally responsible manner. This includes siting, engineering, constructing, and operating its electric generation system in a manner that minimizes its impact on wildlife. Fatalities or injuries of birds or bats, or public displays of indifference toward wildlife by Duke Energy Renewables employees, will not be tolerated by Duke Energy Renewables or the public, and could result in negative media coverage and/or regulatory action by the agencies. This is particularly true with high-profile raptors, such as golden eagles, and hawk and owl species. During migratory bird training sessions, instructors discuss public awareness issues with Duke Energy Renewables employees. Examples of how to effectively handle high-profile bird problems are discussed.

Duke Energy Renewables will continue to strive to educate the public on the benefits of renewable wind energy. This may include partnerships with local academia to develop educational programs related to wind energy facilities. Duke Energy Renewables may allow tours or field trips with local schools, host open houses, and/or invite the public for visits to Project. Duke Energy Renewables may distribute material in the media, such as local newspapers or radio stations. In addition, Duke Energy Renewables will strive to continue to work closely with resource agencies, conservation organizations, the media, and the general public on bird and bat conservation projects.

13.0 KEY RESOURCES

Key avian and bat resource personnel involved with Searchlight include the following:
Tetra Tech EC, Inc.
Karl Kosciuch, PhD
Senior Biologist and Project Manager
Cell Phone: 503-432-7093

Duke Energy Migratory Bird Hot Line for Wind Sites
Greg Aldrich (704) 430-7946 (call or text)

United States Fish and Wildlife Service (USFWS) - Office of Law Enforcement
USFWS Region 8 (CA and NV)
Office of Law Enforcement
2800 Cottage Way, W-2928
Sacramento, California 95825
Phone: 916-414-6660 Fax: 916-414-6715

USFWS - Southern Nevada Field Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130
702-515-5230

USFWS - Nevada Fish & Wildlife Office
1340 Financial Blvd., Suite 234
Reno, Nevada 89502
(775) 861-6300

Nevada Licensed Bird Rehabilitators Near Searchlight:
Donald Inskeep
126 Crestview Dr
Las Vegas, NV 89124
Phone: 702-872-9309

Lisa Ross - Wild Wing Project
4232 Tuffer Ln
Las Vegas, NV 89130
Phone: 702-238-0570

Joanne Stefanatos - Animal Kingdom Veterinary Hospital
1325 Vegas Valley Dr
Las Vegas, NV 89109
Phone: 702-735-7184

14.0 REFERENCES

Anderson et al. 2005. Avian Monitoring and Risk Assessment at the San Gorgonio Wind Resource Area. Phase I Field Work: March 3, 1997 – May 29, 1998, Phase II Field Work: August 18, 1999 – August 11, 2000.

APLIC (Avian Power Line Interaction Committee). 2006. Suggested practices for raptor protection on power Lines; the State of the Art in 2006. Edison Electric Institute, APLIC and the California Energy Commission Washington, D.C and Sacramento, CA.

APLIC. 1994. Mitigating Bird Collisions with Power Lines: The State of the Art in 1994. Edison Electric Institute. Washington, D.C.

Arnett, E.B., M.R. Schirmacher, M.P. Huso, and J.P. Hayes. 2009a. Patterns of Fatality at the Casselman Wind Project in south-central Pennsylvania, 2008 Annual Report. Prepared for the Bats and Wind Energy Cooperative and the Pennsylvania Game Commission.

Arnett, E.B., M.R. Schirmacher, M.M.P. Huso, and J.P. Hayes. 2009b. Effectiveness of changing wind turbine cut-in speed to reduce bat fatalities at wind facilities. An annual report submitted to the Bats and Wind Energy Cooperative. Bat Conservation International. Austin, Texas.

Arnett, E.B., W.K. Brown, W.P. Erickson, K.K. Fiedler, B.L. Hamilton, T.H. Henry, A. Jain, G.D. Johnson, J. Kerns, R.R. Koford, C.P. Nicholson, T.J. O'Connel, M.D. Piorkowski, and R.D. Tankersley, Jr. 2008. Patterns of Bat Fatalities at Wind Energy Facilities in North America. Journal of Wildlife Management 72:61-78.

Arnett, E.B., D.B. Inkley, D.H. Johnson, R.P. Larkin, S. Manes, A.M. Manville, J.R. Mason, M.L. Morrison, M.D. Strickland, and R. Thresher. 2007. Impacts of wind energy facilities on wildlife and wildlife habitat. Wildlife Society Technical Review 07-2. The Wildlife Society, Bethesda, MA.

Arnett, E.B., W.P. Erickson, J. Kerns, and J. Horn. 2005. Relationships between Bats and Wind Turbines in Pennsylvania and West Virginia: An Assessment of Fatality Search Protocols, Patterns of Fatality and Behavioral Interactions with Turbines. Prepared for Bats and Wind Cooperative.

Arnold, T.W., and R.M. Zink. 2011. Collision mortality has no discernable effect on population trends of North American Birds. PLoS ONE 6: e24708. doi:10.1371/journal.pone.0024708

Baerwald, E.F, G.H. D'Amours, B.J. Klug, and R.M.R Barclay. 2008. Barotrauma is a Significant Cause of Bat Fatalities at Wind Turbines. Current Biology 18:695-696.

Bryce, S.A., Woods, A.J., Morefield, J.D., Omernik, J.M., McKay, T.R., Brackley, G.K., Hall, R.K., Higgins, D.K., McMorran, D.C., Vargas, K.E., Petersen, E.B., Zamudio, D.C., and Comstock, J.A., 2003, Ecoregions of Nevada (color poster with map, descriptive text, summary tables, and photographs): Reston, Virginia, U.S. Geological Survey (map scale 1:1,350,000).

BLM (Bureau of Land Management). 2011. Searchlight Wind Energy Project DEIS.

BLM. 2005. Land Use Planning Handbook H-1601-1 (Soil and Water). Las Vegas, NV: U.S. Department of Interior.

BLM. 1998. Las Vegas Resource Management Plan and Environmental Impact Statement. Volumes I and II. Las Vegas, Nevada: U.S. Department of Interior.

Call, M. 1979. Habitat management guides for birds of prey. Bureau of Land Management. Technical Note 338. Denver, Colorado.

Clark County, Nevada. 2008. Clark County Flood Control District Master Plan Update – Outlying Areas, Searchlight. PBS&J, Henderson, NV.

Craig, J. 1995. Recommended buffer zones and seasonal restrictions for Colorado raptor nests. Colorado Division of Wildlife. Research Center, Fort Collins, Colorado.

Cryan, P.M. and R.M.R. Barclay. 2009. Causes of Bat Fatalities at Wind Turbines: Hypotheses and Predictions. Journal of Mammalogy 90: 1330-1340.

Cryan, P.M. 2003. Seasonal Distribution of Migratory Tree Bats (*Lasiurus* and *Lasionycteris*) in North America. Journal of Mammology 84:579-593.

Drewitt, A.L., and R.H.W. Langston. 2006. Assessing the impacts of wind farms on birds. Ibis 148:29-42.

ERDA (Energy Research and Development Administration). 1977. EIA for CUI Venture application for geothermal loan guarantee Beryl and Lund, Utah). EIA/GE/77-8. Washington, D.C. 109pp.

Erickson, W.P., J.D. Jeffrey, and V.K. Poulton. 2008. Puget Sound Energy Wild Horse Wind Facility Post-Construction Avian and Bat Monitoring First Annual Report: January-December 2007. Prepared for Puget Sound Energy.

Erickson, W.P. 2007. Summary of methods and results for prediction and estimation of impacts and risk. Presented at NWCC Probability of Impact Workshop, 13 November 2007, Golden, CO.

Erickson, W.P., J. Jeffrey, K. Kronner, and K. Bay. 2007. Stateline Wind Project Wildlife Monitoring Annual Report, January –December 2006. Technical report submitted to FPL Energy, the Oregon Office of Energy, and the Stateline Technical Advisory Committee.

Erickson, W. P., G. D. Johnson, and D. P. Young, Jr. 2005. A summary and comparison of bird mortality from anthropogenic causes with an emphasis on collisions. USDA Forest Service Gen. Tech. Rep. PSW-GTR-191.

Erickson, W.P., J. Jeffrey, K. Kronner, and K. Bay. 2004. Stateline Wind Project Wildlife Monitoring Final Report, July 2001—December 2003. Technical report peer- reviewed by and submitted to FPL Energy, the Oregon Energy Facility Siting Council, and the Stateline Technical Advisory Committee.

Erickson, W.P., K. Kronner, and B. Gritski. 2003a. Nine Canyon Wind Power Project avian and bat monitoring report. September 2002 – August 2003. Prepared for the Nine Canyon Technical Advisory Committee and Energy Northwest by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming, and Northwest Wildlife Consultants (NWC), Pendleton, Oregon.

Erickson, W.P., D.P. Young, Jr., G. Johnson, J. Jeffrey, K. Bay, R. Good, and H. Sawyer. 2003b. Wildlife Baseline Study for the Wild Horse Wind Project. Summary of Results from 2002-2003 Wildlife Surveys May 10, 2002- May 22, 2003. Draft report prepared for Zilkha Renewable Energy, Portland, Oregon. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming. November 2003.

Erickson, W.P., G.D. Johnson, D.P. Young, Jr., D. Strickland, R. Good, M. Bourassa, K. Bay, and K. Sernka. 2002. Synthesis and Comparison of Baseline Avian and Bat Use, Raptor Nesting and Mortality Information from Proposed and Existing Wind Developments. Technical report prepared for Bonneville Power Administration, Portland, Oregon by WEST, Inc., Cheyenne, Wyoming. December 2002. http://www.bpa.gov/Power/pgc/wind/Avian_and_Bat_Study_12-2002.pdf.

Erickson, W.P., G.D. Johnson, M.D. Strickland, D.P. Young Jr., K.J. Sernka, and R.E. Good. 2001. Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to Other Sources of Avian Collision Mortality in the United States. National Wind Coordinating Committee, Washington, DC.

Erickson, W.P., G.D. Johnson, M.D. Strickland, and K. Kronner. 2000. Final Report: Avian and Bat Mortality Associated with the Vansycle Wind Project, Umatilla County, OR, 1999 study year. Report for Umatilla County Department of Resource Services and Development. Prepared by WEST, Cheyenne, WY.

Ferrer, M., M. de Lucas, G.F.E Janss, E. Casado, A.R. Munoz, M.J. Bechard, C.P. Calabuig. 2012. Weak relationship between risk assessment studies and recorded mortality in wind farms. Journal of Applied Ecology 49:38-46.

Gonzalez, L. M., B. E. Arroyo, A. Margalida, R. Sanchez, and J. Oria. 2006. Effect of human activities on the behaviour of breeding spanish imperial eagles (*Aquila adalberti*): management implications for the conservation of a threatened species. Animal Conservation 9:85–93.

Gritski, B., S. Downes, and K. Kronner. 2009. Klondike III (Phase 1) Wind Power Project Wildlife Monitoring Year One Summary. Prepared for Iberdrola Renewables.

Gritski, B., K. Kronner, and S. Downes. 2008. Leaning Juniper Wind Power Project, 2006 – 2008. Wildlife Monitoring Final Report. Prepared for PacifiCorp Energy, Portland, Oregon. Prepared by Northwest Wildlife Consultants, Inc. (NWC), Pendleton, Oregon. December 30, 2008.

Harness, R. and K. Wilson. 2001. Electric-utility Structures Associated with Raptor Electrocutions in Rural Areas. Wildlife Society Bulletin 29: 612-623.

Holmes, T.L., R.L. Knight, L. Stegall, and G.R. Craig. 1993. Responses of wintering grassland raptors to human disturbance. Wildlife Society Bulletin 21:461-468.

Hoofer, S. R., R. A. Van Den Bussche, and I. Horáček. 2006. Generic status of the American pipistrelles (Vespertilionidae) with description of a new genus. Journal of Mammalogy, 87:981-992.

Huso, M.M.P. 2011. An estimator of wildlife fatality from observed carcasses. Environmetrics 22:318-329.

Howell, J.A. and J. Noone. 1992. Examination of avian use and mortality at a U.S. windpower wind energy development site, Montezuma Hills, Solano County, California. Final report to Solano County Department of Environmental Management, Fairfield, California.

Jacobson, J.O. 1974. Potential impact of the Mackenzie gas pipeline on bird populations in the Yukon and Northwest Territories. Pages 121-176 in Research Reports, vol. IV. Environmental Impact Assessment of the Portion of the Mackenzie Gas Pipeline from Alaska to Alberta. Environmental Protection Board, Winnipeg, Manitoba, Canada.

Jain, A., P. Kerlinger, R. Curry, and L. Slobodnik. 2007. Annual Report for the Maple Ridge Wind Power Project post-construction bird and bat fatality study—2006. Prepared by Curry and Kerlinger, LLC for PPM Energy, Horizon Energy, and Technical Advisory Committee for the Maple Ridge Project.

Jeffrey, J.D., K. Bay, W. Erickson, M. Sonnenberg, J. Baker, J.R. Boehrs, and A. Palochak. 2009. Horizon Wind Energy Elkhorn Valley Wind Project, Union County, Oregon Post-Construction Avian and Bat Monitoring First Annual report. Prepared by WEST, Cheyenne, WY.

Johnson, G.D., and W.P. Erickson. 2010. Avian, bat and habitat cumulative impacts associated with wind energy development in the Columbia Plateau Ecoregion of Eastern Washington and Oregon. Prepared for the Klickitat County Planning Department.

Johnson, G.D., M.D. Strickland, W.P. Erickson, and D.P. Young, Jr. 2007. Use of Data to Develop Mitigation Measure for Wind Power Development Impacts to Birds. In: Birds and Windfarms: Risk Assessment and Mitigation. M. J. de Lucas, G. F. E. Janss, and M. Ferrer, eds. Madrid, Spain. Pp. 241-257.

Johnson, G.D., W.P. Erickson, and J. White. 2003. Avian and bat mortality at the Klondike Oregon Phase I Wind Plant, Sherman County, Oregon. Technical Report prepared for Northwestern Wind Power. Prepared by WEST, Cheyenne, WY.

Johnson, G.D., W.P. Erickson, M.D. Strickland, M.F. Shepherd, D.A. Shepherd, and S.A. Sarappo. 2002. Collision Mortality of Local and Migrant Birds at a Large-scale Wind Power Development on Buffalo Ridge, Minnesota. Wildlife Society Bulletin 30:879-887.

Johnson, G.D., D.P. Young, W.P. Erickson, C.E. Derby, M.D. Strickland, and R.E. Good. 2000a. Wildlife Monitoring Studies, SeaWest Windpower Plant, Carbon County, Wyoming, 1995-1999. Final report prepared for SeaWest Energy Corporation, San Diego, California, and the Bureau of Land Management, Rawlins, Wyoming, by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming.

Johnson, G.D., W.P. Erickson, M.D. Strickland, M.F. Shepherd, and D.A. Shepherd. 2000b. Avian monitoring studies at the Buffalo Ridge Wind Resource Area, Minnesota: Results of a 4-Year Study. Final report prepared for Northern States Power Company, Minneapolis, Minnesota, by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming.

Keeley, B.W., and M.D Tuttle. 1999. Bats in American Bridges. Bat Conservation International. Resource Publication No. 4. 40pp. Available online at: http://www.batcon.org/pdfs/bridges/ BatsBridges2.pdf

Kerlinger, P., R.Curry, L. Culp, A. Hasch and A. Jain. 2009. Post-construction avian monitoring study for the Shiloh I wind power project, Solano County, California. Prepared for Iberdrola Renewables.

Kerlinger, P., R. Curry, L. Culp, A. Jain, C. Wilkerson, B. Fischer, and A. Hasch. 2006a. Post-Construction Avian and Bat Fatality Monitoring for the High Winds Wind Power Project,

Solano County, California: Two Year Report. Prepared for High Winds LLC, FPL Energy by Curry and Kerlinger, LLC. April 2006.

Kerlinger, P., R.Curry, L. Culp, A. Hasch and A. Jain. 2006b. Avian monitoring study and risk assessment for the Shiloh Wind Power Project, Solano County, California. Prepared for EnXco.

Kerlinger, P., L. Culp, and R. Curry. 2005. Post Construction Avian Monitoring Study for the High Winds Wind Power Project. Solano County, California. Year one report. Prepared for High Winds, LLC and FPL Energy.

Kerns, J., W.P. Erickson, E.B. Arnett. 2005. Bat and bird fatality at wind energy facilities in Pennsylvania and West Virginia. In: Relationships between bats and wind turbines in Pennsylvania and West Virginia: An assessment of fatality search protocols, Patterns of fatality, and behavioral interactions with wind turbines, E.B. Arnett (technical editor). Bat Conservation International. Austin, Texas. pp. 24-95.

Kerns, J., and P. Kerlinger. 2004. A Study of Bird and Bat Collision Fatalities at the Mountaineer Wind Energy Center, Tucker County, West Virginia: Annual report for 2003. Technical report prepared by Curry and Kerlinger, LLC for FPL Energy and Mountaineer Wind Energy Center Technical Review Committee.

Kronner, K., B. Gritski, and S. Downes. 2008. Big Horn Wind Power Project Wildlife Fatality Monitoring Study 2006-2007. Prepared for PPM Energy and Big Horn Wind Project Technical Advisory Committee.

Kunz, T.H., E.B. Arnett, W.P. Erickson, A.R. Hoar, G.D. Johnson, R. P. Larkin, M.D. Strickland, R.W. Thresher, and M.D. Tuttle. 2007. Ecological Impacts of Wind Energy Development on Bats: Questions, Research Needs, and Hypotheses. Frontiers in Ecological Environments 5: 315-324.

Kuvelsky, Jr., W., Brennan, L., Morrison, M., Boydston, K., Ballard, B., and Bryant, F. 2007. Wind Energy Development and Wildlife Conservation: Challenges and Opportunities. Journal of Wildlife Management 71:2487-2498.

Leddy, K.L., K.F. Higgins, and D.E. Naugle. 1999. Effects of Wind Turbines on Upland Nesting Birds in CRP Grasslands. Wilson Bulletin 111:100-104.

Marzluff, J.M., S.T. Knick, M.S. Vekasy, L.S. Schueck, and T.J. Zarriello. 1997. Spatial use and habitat selection of golden eagles in southwestern Idaho. Auk 114:673-687.

Miller, B.W. 2001. A method for determining relative activity rates of free flying bats using a new activity index for acoustic monitoring. Acta Chiropterologica 3:93-105.

O'Farrell, M.J. 2010. Final Report May 2009-April 2010, Baseline Acoustic Monitoring of Bat Populations within the Duke Energy Searchlight Wind Energy Project Site, Clark County, Nevada. Prepared for Tetra Tech EC. May 2010.

O'Farrell, M.J. 2009a. Final Progress Report April 2008-April 2009, Baseline Acoustic Monitoring of Bat Populations within the Duke Energy Searchlight Wind Energy Project Site, Clark County, Nevada. Prepared for Tetra Tech EC. June 2009.

O'Farrell, M. J. 2009b. Final report baseline acoustic monitoring of bat populations within the Ash Meadows National Wildlife Refuge, Nye County, Nevada. Prepared for U. S. Fish and Wildlife Service, Ash Meadows National Wildlife Refuge, Amargosa Valley, Nevada. 31 pp + appendices.

O'Farrell, M. J. 2007. Final progress report baseline acoustic monitoring of bat populations within the Table Mountain Wind Generation Facility project site, Clark County, Nevada. Prepared for SWCA, Las Vegas, Nevada. 23 pp + appendices.

O'Farrell, M. J. 2006a. Final report baseline acoustic monitoring of bat populations within the Muddy and Virgin River Drainages associated with the Surface Water Project, Clark County, Nevada. Prepared for Southern Nevada Water Authority, Las Vegas, Nevada. 22 pp + appendices.

O'Farrell, M. J. 2006b. Final report long-term acoustic monitoring of bat populations associated with an extensive riparian restoration program in Las Vegas Wash, Clark County, Nevada (2004-2005). Prepared for Southern Nevada Water Authority, Las Vegas, Nevada. 30 pp + appendices.

O'Farrell, M. J., B. W. Miller, and W. L. Gannon. 1999. Qualitative identification of free-flying bats using the Anabat detector. Journal of Mammalogy, 80:11-23.

O'Farrell, M.J. and E.H. Studier. 1980. *Myotis thysanodes*. Mammalian Species 137:1-5.

Olendorff, R . R., and W. D. Zeedyk. 1978. Land management for the conservation of endangered birds. Pp. 419-428 in S. A. Temple Editor. Endangered birds. University of Wisconsin Press, Madison, Wisconsin.

Orloff, S., and A. Flannery. 1992. Wind turbine effects on avian activity, habitat use, and mortality in Altamont Pass and Solano County Wind Resource Areas, 1989-1991. Final report prepared by Biosystems Analysis, Inc. for Alameda, Contra Costa, and Solano Counties and the California Energy Commission.

Pagel, J.E., B.A. Millsap, E. Kernsher, S. Covenington, and R. Murphy. 2011. Known eagle mortalities at wind turbine technology facilities in the western United States. Raptor Research Foundation Meetings, Duluth, Minnesota, October 2011.

Pagel, J.E., D.M. Whittington and G.T. Allen. 2010. Interim golden eagle inventory and monitoring protocols; and other recommendations. Division of Migratory Birds, U.S. Fish and Wildlife Service.

Pearce-Higgins, J.W., L. Stephen, A. Douse, and R.H.W. Langston. 2012. Greater impacts of wind farms on bird populations during construction than subsequent operation: results of a multi-site and multi-species analysis. Journal of Applied Ecology 49:386-394.

Ruddock, M. and D.P. Whitfield. 2007. A Review of disturbance distances in selected bird species. Report from Natural Research (Projects) Ltd. to Scottish Natural Heritage. Natural Research, Banchory, United Kingdom.

Schakleford, C.E., E.R. Rozenburg, W. C. Hunter and M. W. Lockwood. 2005. Migration and Migratory Birds of Texas: Who They Are and Where They Are Going. Texas Parks and Wildlife PWD BK W7000-511 (11/05). Booklet 34 pp.

Shaffer, J. and D. Johnson. 2008. Displacement Effects of Wind Developments on Grassland Birds in the Northern Great Plains. NWCC Wind Wildlife Conference, October 2008. Milwaukee, WI.

Smallwood, K.S. and B. Karas. 2009. Avian and bat fatality rates at old-generation and repowered wind turbines in California. Journal of Wildlife Management 73:1062-1071.

Stahl, J.T., and M. K. Oli. 2006 Relative importance of avian life-history variables to population growth rate. Ecological Modeling 198:183-194.

Strickland, D., E.B. Arnett, W.P. Erickson, D.H. Johnson, G.D. Johnson, M.L., Morrison, J.A. Shaffer, and W. Warren-Hicks. 2011. Comprehensive Guide to Studying Wind Energy/Wildlife Interactions. Prepared for the National Wind Coordinating Collaborative, Washington, D.C., USA.

Strickland, D., and M.L. Morrison. 2008. A summary of avian/wind facility interactions in the U.S. Federal Guidelines Committee for Wind Siting Guidelines, February 26, 2008, Washington, DC.

Suter, G.W. and J.L. Joness. 1981. Criteria for golden eagle, ferruginous hawk, and prairie falcon nest site protection. Journal of Raptor Research 15:12-18.

Taylor, K., J. Gruver, and K. Bay. 2008. Wildlife Studies for the Campbell Hill Wind Resource Area, Converse County, Wyoming. Fall Summary Report: September 9 - November 5, 2008. Prepared for Three Buttes Windpower, LLC/Duke Energy. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming. December 30, 2008

Tetra Tech (Tetra Tech EC, Inc). 2012. Winter Eagle Survey Report Searchlight Wind Energy Project, Clark County, Nevada. Prepared for Duke Energy. February 2012.

Tetra Tech. 2011. 2011 Searchlight Raptor Nest Survey, Searchlight Wind Resource Area, Clark County, Nevada. Prepared for Duke Energy. July 2011.

Tetra Tech. 2010. 2007-2009 Avian Surveys, Searchlight Wind Resource Area, Clark County, Nevada. Prepared for Duke Energy. February 2010.

Tetra Tech. 2008. Spring Avian Survey, Searchlight Wind Resource Area, Clark County, Nevada. Prepared for Catamount Energy Corporation. July 2008.

Tetra Tech. 2007. Environmental Assessment Searchlight Meteorological Tower Installation Project. Prepared for Catamount Energy Corporation. May 2007.

USFWS (US Fish and Wildlife Service). 2012a. Endangered Species for Clark County, Nevada. Updated February 15, 2012. Accessed online February 15, 2012.

USFWS. 2012b. Eagle Conservation Plan Guidance. Module 1 – Land-based Wind Energy Technical Appendices. August 2012.

USFWS. 2012. U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines. March 23, 2012.

USFWS. 2011a. Draft Eagle Conservation Plan Guidance. Released January, 2011.

USFWS. 2011b. Migratory Bird Flyways. http://www.fws.gov/migratorybirds/Flyways.html Accessed on March 2011.

USFWS. 2009. Eagle permits; Take necessary to protect interests in particular localities; final rule. Federal register. 74:46836-46879.

USFWS. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. 85 pp. [Online version available at <http://www.fws.gov/migratorybirds/>]

Watson, J. and M. Whalen. 2004. Golden Eagle (*Aquila chrysaetos*). In: Management Recommendations for Washington's Priority Species, Volume IV: Birds. Washington Department of Fish and Wildlife (WDFW). Larsen, E.M., J.M. Azerrad, and N. Nordstrom, eds. Last updated 2003. Available online at: http://wdfw.wa.gov/hab/phs/vol4/goldeagl.pdf.

Western EcoSystems Technology, Inc. (WEST). 2008. Diablo Winds Wildlife Monitoring Progress Report: March 2005 – February 2007. Prepared by WEST, Cheyenne, Wyoming. August 2008.

Western EcoSystems Technology, Inc. (WEST). 2006. Diablo Winds Wildlife Monitoring Progress Report, March 2005 - February 2006. Technical report submitted to FPL Energy and Alameda County California. WEST. Cheyenne, Wyoming.

Whitfield, D. P. 2009. Collision avoidance of golden eagles at wind farms under the 'Band' collision risk model. Report from Natural Research to Scottish Natural Heritage, Banchory, UK.

Wilson, D. E. and F. R. Cole. 2000. Common names of mammals of the world. Smithsonian Institution Press, Washington, D.C. 204 pp.

Wilson, D. E. and D. M. Reeder. 1993. Mammal species of the world: a taxonomic and geographic reference, second edition. Smithsonian Institution Press, Washington, D.C. 1206 pp.

Wyoming Game and Fish Department (WGFD). 2009. Recommendations for Wind Energy Development in Crucial and Important Wildlife Habitat. Draft report prepared by the WGFD, Cheyenne, Wyoming. October 2009.

Young, D.P., Jr., C. LeBeau, W. Erickson, S. Nomani, J.R. Boehrs, and B. Oakleaf. 2010. Status of breeding populations of ferruginous hawks, golden eagles and bald eagles in Albany and Carbon County, Wyoming. Prepared for the Wyoming Game and Fish Department (WGFD).

Young, D.P., Jr., W.P. Erickson, J. Jeffrey, and V. Poulton. 2007. Puget Sound Energy Hopkins Ridge Wind Project Phase I Post-Construction Avian and Bat Monitoring First Annual Report; January-December 2006. Prepared for Puget Sound Energy.

Young, D.P. Jr., J. Jeffrey, W.P. Erickson, K. Bay, and V.K. Poulton. 2006. Eurus Combine Hills Turbine Ranch. Phase 1 post construction wildlife monitoring first annual report. Technical report prepared for Eurus Energy America Corporation, San Diego, California, and the Combine Hills Technical Advisory Committee, Umatilla County, Oregon.

Young, D.P., Jr., W.P. Erickson, R.E. Good, M.D. Strickland, and G.D. Johnson. 2003. Avian and bat mortality associated with the initial phase of the Foote Creek Rim Wind Power Project, Carbon County, Wyoming: November 1998–June 2002. Technical report prepared by WEST, Inc. for PacifiCorp, Inc., SeaWest Windpower, Inc., and Bureau of Land Management. Prepared by Western EcoSystems Technology, Inc. (WEST), Cheyenne, Wyoming, and Northwest Wildlife Consultants, Inc. (NWC), Pendleton, Oregon.

APPENDIX A. SITE-SPECIFIC PRE-CONSTRUCTION DATA

APPENDIX B. FATALITY MONITORING PROTOCOL

FATALITY MONITORING PROTOCOL

1 TECHNICAL APPROACH

The objective of post-construction mortality monitoring at the Project is to study the avian and bat mortality associated with Project operation over the course of two years. Wind farm-related fatality estimation is based on the number of carcasses found during carcass searches conducted under operating turbines. Both the probability that a carcass persists onsite long enough to be detected by searchers (carcass persistence), and the ability of searchers to detect carcasses (searcher efficiency) can lead to imperfect detection of carcasses during standardized searches. In other words, not all birds or bats killed are found, thus fatality estimates are biased. Therefore, this post-construction monitoring plan includes: 1) methods for conducting standardized carcass searches to monitor potential injuries or fatalities associated with wind farm operation; 2) carcass persistence trials to assess seasonal, site-specific carcass persistence time; and 3) searcher efficiency trials to assess observer efficiency in finding carcasses. Annual fatality rates of bats, large birds, and small birds will then be calculated by correcting for the bias (i.e., underestimation) due to searcher efficiency and carcass persistence.

The field and analytical methods proposed below are consistent with post-construction monitoring being conducted, or proposed, for other wind projects elsewhere in the U.S. (Johnson et al. 2003; Young et al. 2003; Erickson et al. 2004; Arnett et al. 2005, 2009a, 2009b; Kerns et al. 2005; Jain et al. 2007; Huso 2011) but have been adapted to the specific characteristics of the Project. The protocol outlines the surveys and trials to be conducted. Methods and timing outlined in this protocol may be modified over the course of the study year as Project-specific information is gained to maximize the effectiveness and efficiency of the monitoring program (e.g., search interval, number of turbines searched, plot size).

A scientific collecting permit will be obtained from NDOW so that bat carcasses can be collected and used in field trials.

2 STANDARDIZED CARCASS SEARCHES

The objective of the standardized carcass searches is to systematically search turbine locations for avian and bat fatalities that are attributable to collision with Project facilities or, in the case of bats, also due to barotrauma. Collectively, all turbine fatalities will be referred to as collision-related fatalities. The following subsections describe survey timing, the sampling design, and field procedures.

2.1 Sampling Duration and Intensity

Carcass searches will begin after construction is completed and the Project is operational, and will continue for one year. Post-construction monitoring will consist of systematic searches of 30 percent of the 87 turbines, for a total of 26 turbines. The subset of turbines to be monitored will

be a representative sample of available topographic and habitat variation at the Project. To be most efficient and encompass all potential Project impacts, survey effort will incorporate observed seasonal patterns in bird and bat use, and level of sampling will vary accordingly.

Seasonal sampling intervals will be as follows:

Spring: March 16 to May 31 – approximately 8 searches
Summer: June 1 to August 15 – approximately 8 searches
Fall: August 16 to November 15 – approximately 13 searches
Winter: November 16 to March 15 – approximately 11 searches

Surveys will be conducted every 7 days during spring and fall and every 10 days during summer and winter. One quality assurance/quality control (QA/QC) visit will be conducted during the year of surveys.

2.2 Search Plot Size and Configuration

The Project consists of 87 turbines. For this proposal, Tetra Tech assumes that turbines have a hub height of approximately 80 m (262 feet) with a total tip height of 130.5 m (428 feet). Tetra Tech will create a survey plot that is approximately 75 percent of the turbine tip height in width centered on the turbine. That is, the search area will extend 100 m (328 feet) from the turbines on each side to create a 200 m x 200 m search plot. Search areas will encompass maintained turbine pads and access roads, as well as adjacent unmaintained areas. The actual area searched will ultimately be dependent on the configuration of the maintained areas, as well as the portion of the unmaintained area that can be realistically searched as determined during initial surveys. Tetra Tech anticipates that the turbine pads will extend out to approximately 12 m (40 feet) from the base of turbines and roads will remain clear of vegetation.

During all seasons, linear transects will be established within search plots approximately 6 m (20 feet) apart and the searcher will walk along each transect searching both sides out to 3 m (10 feet) for fatalities. Personnel trained and tested in proper search techniques will conduct the carcass searches. The proposed protocol for documenting any fatalities or injuries is provided below.

2.3 Fatality Documentation

Carcasses found during standardized carcass searches will be labeled with a unique number, and searchers will record species, sex and age when possible, date and time collected, location (Global Positioning System [GPS] coordinate, and distance/direction from the turbine), condition (e.g., intact, scavenged, feather spot), observer, turbine number and any comments that may indicate cause of death. If a carcass of a listed species is found, searchers will follow the Project Wildlife Reporting System (Section 8.2) and contact the appropriate agencies.
Fatalities will be photographed as found and GPS locations will be plotted on a detailed map of the study area showing the location of the wind turbines. A copy of the field forms for each

carcass will be kept with the carcass at all times in a separate outer bag if the carcass is removed from the ground.

Carcasses of any special-status species will be handled as directed by USFWS or NDOW. Carcasses of non-listed species will be left in place and marked by trimming feathers, kept for searcher efficiency and/or carcass removal trials, or disposed of at an approved location, as appropriate. Individual carcasses collected during the study will be housed in a freezer on or near the Project site. Individual carcasses will be maintained until after the final analysis and report are prepared in case questions about identity or cause of death should arise. The final disposition of individual carcasses will be based on direction from the agencies, the legal status of individual fatalities, and direction of the USFWS Law Enforcement Agent in Charge, if appropriate.

Searchers may discover carcasses incidental to formal carcass searches (e.g., outside of a search plot or of a scheduled survey date). For each incidentally discovered carcass, the searcher will identify, photograph, and record data for the carcass as would be done for carcasses found during formal scheduled searches, but will code these carcasses as incidental discoveries.

3 CARCASS PERSISTENCE TRIALS

Carcass persistence is the disappearance of a carcass from the search area due to scavenging, predation, or other means (e.g., due to forces such as wind and rain or decomposition beyond recognition). The objective of the carcass persistence trials is to document the length of time carcasses remain in the search area, and thus are available to be found by searchers, and to subsequently determine the appropriate frequency of carcass searches within the search plots. As previously discussed, fatality searches must be conducted at a frequency that minimizes loss due to carcass removal in order to minimize bias. Seasonal differences in carcass persistence (i.e., changes in scavenger population density or type) and possible differences in the size of the animal being scavenged are taken into account when evaluating carcass persistence by conducting trials in multiple seasons.

Carcasses used in the trials will be selected to best represent the size and proportions for a range of species. For large birds, carcasses may include legally obtained waterfowl, pheasant, or similar species obtained from game farms. For small birds, carcasses may include European starlings, house sparrows, or similar species. For bats, carcasses may include black or grey mice that superficially resemble bats. Whenever possible, actual bird or bat carcasses of species expected to occur in the area will be used, including the carcasses of previously collected fatalities.

3.1 Sampling Intensity

Assuming adequate carcass availability, one carcass removal trial will be conducted during spring, summer, winter, and fall seasons with up to 15 carcasses of each bird size class (large

bird, small bird, bat/mouse) placed per season, resulting in a total of up to 135 trial carcasses used in carcass removal studies for the entire year for the Project. Trials will be spread throughout the year to incorporate the effects of varying weather, climatic conditions, and scavenger densities.

3.2 Conducting the Trial

Each carcass used for the carcass persistence trial will be placed randomly within the area beneath non-searched turbines. Random locations will be generated and loaded into a GPS as waypoints to allow the accurate placement of the carcasses by field personnel. Carcasses will be dropped from waist height and allowed to land in a random posture. Each trial carcass will be discreetly marked (e.g., small tag or wire wrapped around one leg) prior to dropping so that it can be identified as a study carcass if it is found by other searchers or wind facility personnel. Personnel will monitor the trial birds on days 1, 2, 3, 4, 7, 10, 14, 21, and 30. When checking the carcass, searchers will record the condition as intact (normal stages of decomposition), scavenged (feathers pulled out, chewed on, or parts missing), feather spot (only feathers left), or completely gone. Changes in carcass condition will be cataloged with pictures and detailed notes; photographs will be taken at placement and any time major changes have occurred. At the end of the 30-day period, any evidence of carcasses that remain will be removed and properly disposed of.

3.3 Estimation of Carcass Removal Rates and the Probability of Persisting

The mean carcass persistence will be derived from the carcass persistence trials and will be used to adjust the search interval. Estimates of the probability that a carcass was not removed in the interval between searches (probability of persistence) and therefore was available to be found by searchers, will be used to adjust carcass counts for removal bias (Huso 2011). Huso (2011) presents the most bias-free equation for determining the average probability of persistence, which takes into account the length of the search interval and the carcass persistence:

$$\hat{r} = \frac{\hat{\hat{t}}(I - e^{-I/\hat{\hat{t}}})}{I}$$

Where *t* is the estimated mean persistence time and *I* is the length of the interval.

4 SEARCHER EFFICIENCY TRIALS

The ability of searchers to detect carcasses is influenced by a number of factors including the skill of an individual searcher in finding the carcasses, the vegetation composition within the search area, and the characteristics of individual carcasses (e.g., body size, color). The objective of searcher efficiency trials is to estimate the percentage of bird and bat fatalities that searchers are able to find. Estimates of searcher efficiency are then used to adjust carcass counts for detection bias. Searcher efficiency trials will be conducted all seasons for all searchers to account for seasonal differences in searcher efficiency.

4.1 Sampling Intensity

Searcher efficiency trials will begin when standardized carcass searches start. Personnel conducting the searches will not know when trials are conducted or the location of the efficiency-trial carcasses. Trials will be conducted multiple times throughout each season and will incorporate testing of each member of the field crew. At least 15 carcasses from both bird size classes (large and small) and bats or bat surrogates (mice) will be included in the trials.

4.2 Conducting the Trial

Carcasses will be placed at random locations within areas being searched prior to the carcass search on the same day. Carcasses will be dropped from waist height and allowed to land in a random posture. Each trial carcass will be discreetly marked (e.g., small tag or wire wrapped around one leg) prior to dropping so that it can be identified as a study carcass after it is found. The number and location of the carcasses found during the carcass search will be recorded. The number of carcasses placed prior to the search (i.e., the number available for detection during each trial) will be verified immediately after the trial by the person responsible for distributing the trial carcasses. Any carcasses not found will be collected after the trial.

4.3 Searcher Efficiency Rate Estimation

Searcher efficiency rates, or the probability of a carcass being observed given persistence, are expressed as p, the proportion of trial carcasses that are detected by searchers in the searcher efficiency trials. These rates will be estimated by carcass size (large bird, small bird, bat) and season.

5 FATALITY RATE ESTIMATION

The estimation of fatality rates will incorporate observed fatalities documented during standardized carcass searches, as well as unobserved mortality, or individuals that may have been killed by collisions with Project components but were not found by searchers for various reasons. Specifically, fatality estimates will take into account:

- search interval
- observed number of carcasses found during standardized searches during the monitoring year for which the cause of death can be attributed to facility operation
- carcass persistence, expressed as the probability that a carcass is expected to remain in the study area (persist) and be available for detection by the searchers during carcass removal trials
- searcher efficiency, expressed as the proportion of planted carcasses found by searchers during searcher efficiency trials.

To estimate fatalities, Tetra Tech will use the Huso estimator (Huso 2011) according to the following equation: $f_{ijk} = \frac{c_{ijk}}{p_{jk} * r_{jk} * v_{jk}}$ where f_{ijk} is the estimated fatality at the *i*th turbine during the *j*th search in the *k*th category and c_{ijk} is the observed number of carcasses at the *i*th turbine during the *j*th search in the *k*th category. The variable r_{jk} is a function of the average carcass persistence time, which was described earlier, and the length of the search interval preceding a carcass being discovered. The variable r_{jk} is calculated using the lower value of *I*, the actual search interval when a carcass is found or I, the effective search interval, and is estimated through searcher efficiency trials previously described. v_{jk} is the proportion of the effective search interval sampled where v = min (1, I I). p_{jk} is the estimated probablity that a carcass in the *k*th category that is available to be found will be found during the *j*th search. The variables p_{jk}, r_{jk}, and v_{jk} are assumed not to differ among turbines but can differ with carcass type, size class, and season. To obtain an estimate of the number of fatalities the following equation is used: $f = \frac{\sum_{i=1}^{12} \sum_{j=1}^{n_i} \sum_{k=1}^{3} f_{ijk}}{t}$ where n_i is the number of searches at turbine *i* (*i* = 1,…, n) and t is the effective number of turbines searched.

6 REPORTING

This monitoring study will summarize information on bird and bat fatalities associated with development of the Project. Seasonal reports will simply provide information on the search schedule and the species and number of each species found. The annual report will provide a summary of the carcasses found, searcher efficiency, carcass persistence and the total estimated fatalities for the Project. Any incident involving a federally listed threatened or endangered species or golden eagle will be reported to the USFWS within one business day of identification.

During the set-up for carcass surveys, a sweep survey will be conducted in order to remove any fatalities that occurred before the study is initiated. These fatalities will be summarized as incidental finds in the report, but will not be included in the overall fatality estimates. Based on previous experience managing post-construction monitoring field crews, there are a number of subtleties related to data collection that are best conveyed in-person by those involved in the data analysis, report preparation, and subsequent coordination and communication. These important lessons learned will be emphasized during the training to ensure a seamless transition between data collection, analysis, and reporting.

APPENDIX C. REPORT FORM

Wildlife Incident Monitoring and Reporting System - WIMRS

Completing and submitting this form is required by your sites Avian and Bat Protection Plan (ABPP). This form can also be found in your sites ABPP.

Instructions:

After completing the form to the best of your knowledge, attach a photo(s) of the bird/bat by using the button at the bottom of the form and then submitting by clicking the submit button. Multiple photos from different angles is best. The form will be delivered to the appropriate a Scientific Services biologist.

Note: Phone calls may also be required in addition to this form.

Wind Site: Select...

Briefly describe the incident if not a dead bird or bat (e.g. nest, sighting):

Observer(s): Phone Number:

Time: Date:

City: County: State:

UTM Coordinates (Obtain from handheld GPS):

Zone: Easting: Northing: NAD:

OR

Latitude: Longitude:

OR

General Location on the Wind farm:

Nearest Turbine # Distance to nearest turbine:

Approximate direction from nearest turbine: Select...

INJURY OR MORTALITY OBSERVATION

Was this found: ☐ During a Scheduled Turbine Survey ☐ Incidental Find

How many photos were taken: elect...

Type of Incident: *(Check each that apply)*

☐ Bird ☐ Bat

☐ Live ☐ Fatality

If live: ☐ Euthanized ☐ Released ☐ Taken to Rehab. Facility

Carcass condition:

☐ Complete ☐ Partial ☐ Just Feathers ☐ Scavenged ☐ Fresh ☐ Decomposed

Additional Carcass Notes:

What is the species (if known):

Age (if known): ☐ Immature/Juvenile ☐ Adult ☐ Unknown

Estimated time of death (if known): ☐ < 1 day ☐ > 1 day

GENERAL HABITAT DESCRIPTION: Habitat Type/Vegetation Cover:

☐ Sagebrush ☐ Grassland ☐ Crops ☐ Grass ☐ Bare Ground *(road, gravel, dirt, etc.)*

☐ Large Rock/Boulders ☐ Shrubs/Brush ☐ Woods/Trees ☐ Other (describe)

Describe:

Additional Habitat Notes:

IF A HAZARDOUS NEST: Describe the situation:

BALD EAGLE and GOLDEN EAGLE: Do not bury or dispose of carcass. There are specific laws concerning eagles. Notify the site operational manager and contact Greg Aldrich at 704.430.7946 for all eagle incidents. If the primary contact is not available notify your secondary or EHS contact as soon as possible and wait for guidance.

DISPOSITION: (What you did with the bird, bat, carcass, nest, etc.)

==========

This section for use by Duke Energy Scientific Services personnel:

Wind Farm Code: elect...

Species Code: (if unknown use UNID for birds and UNBA for bats)

Incident ID:

Example Incident ID: 022311-TOTW-53-HOBA-1 (date - wind farm - nearest turbine # - species code - sequential number if more than one individual of same species found at turbine).

Additional Notes:

==========

le Attachment

Note: Remember to report this incident to your Operations Manager. If you need assistance, call or text Greg Aldrich at 704.430.7946.

APPENDIX D. POSTER

Wildlife Incident Monitoring and Reporting System (WIMRS)
Duke Energy Wind Facilities

Duke Energy is committed to protecting the environment and creating a sustainable future. This includes conserving and minimizing our impact on wildlife and their habitats.

The production of wind energy has the potential to harm wildlife resources. To reduce our environmental impact, the Wildlife Incident Monitoring and Reporting System (WIMRS) is designed to promote environmental responsibility and provide information to better manage wildlife issues.

About WIMRS

- **Incidental Observations** – Employees should be aware of their surroundings and observant of wildlife at wind sites, report any dead or injured wildlife and unusual wildlife encounters.
- **Turbine Surveys** – Trained site personnel conduct monthly turbine pad checks, including structured surveys around turbines and report any dead or injured wildlife found.
- **Environmental Services Inspections and Audits** – Biologists inspect/audit the sites as necessary to maintain a quality program.

Report all wildlife incidents to your site manager and the Duke Energy Wind Wildlife Hotline using the following guidance:

Call the Wildlife Hotline for the following:

- Dead or injured eagles, raptors or owls
- Any uncertainty about a rare, threatened, endangered or species of concern (RTE)
- A dead or injured RTE
- A sighting of an RTE that is not commonly seen at the site
- More than 3 dead or injured birds or bats found at a single turbine
- Any large scale fatality event at the site, e.g. 5 or more fatalities site wide
- Newly constructed raptor nests
- Old, historically inactive raptor nests that have recently become active
- Raptor activity at raptor nest structures or other manmade habitat enhancements

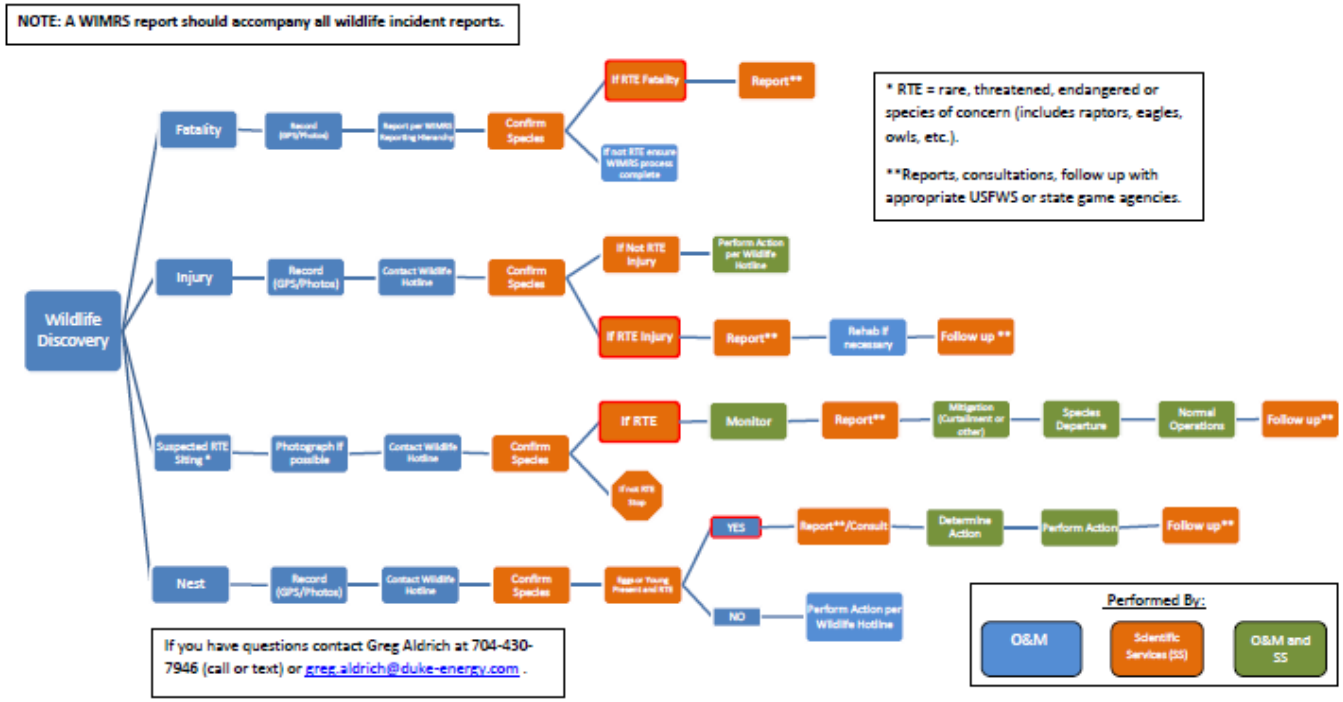
Complete the WIMRS form and submit with photographs for the following wildlife incidents:

- Incidental bird and bat fatalities, defined as a single fatality that does not meet a requirement described above
- Observations of fox or coyote dens, prairie dog towns (that didn't exist before), active nests that are not hazardous to operations, etc.

Primary Contact:	Secondary Contact:	EHS Contact:
Greg Aldrich	Scott Fletcher	Grayling Vander Velde
704-430-7946 (call or text)	704-956-1315	828-421-9205

APPENDIX E. FLOWCHART

Wildlife Incident Monitoring and Reporting System (WIMRS) Flow Diagram



Appendix C: BLM Wind Energy Development Program Policies and BMPs

ATTACHMENT A

BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES (BMPS)

ATTACHMENT A

BLM WIND ENERGY DEVELOPMENT PROGRAM POLICIES AND BEST MANAGEMENT PRACTICES (BMPS)

The BLM's Wind Energy Development Program will establish a number of policies and BMPs, provided below, regarding the development of wind energy resources on BLM-administered public lands. The policies and BMPs will be applicable to all wind energy development projects on BLM-administered public lands. The policies address the administration of wind energy development activities, and the BMPs identify required mitigation measures that would need to be incorporated into project-specific Plans of Development (PODs) and right-of-way (ROW) authorization stipulations. Additional mitigation measures will be applied to individual projects, in the form of stipulations in the ROW authorization as appropriate, to address site-specific and species-specific issues.

These policies and BMPs were formulated through preparation of the Final Wind Energy PEIS (BLM 2005). The PEIS included detailed, comprehensive analysis of the potential impacts of wind energy development and relevant mitigation measures; reviews of existing, relevant mitigation guidance; and reviews of comments received during scoping and public review of the Draft PEIS.

A.1 Policies

- The BLM will not issue ROW authorizations for wind energy development on lands on which wind energy development is incompatible with specific resource values. Lands that will be excluded from wind energy site monitoring and testing and development include designated areas that are part of the National Landscape Conservation System (NLCS) (e.g., Wilderness Areas, Wilderness Study Areas, National Monuments, NCAs,[1] Wild and Scenic Rivers, and National Historic and Scenic Trails) and Areas of Critical Environmental Concern (ACECs).[2] Additional areas of land may be excluded from wind energy development on the basis of findings of resource impacts that cannot be mitigated and/or conflict with existing and planned multiple-use activities or land use plans.

- To the extent possible, wind energy projects shall be developed in a manner that will not prevent other land uses, including minerals extraction, livestock grazing, recreational use, and other ROW uses.

---

[1] Wind energy development is permitted in one NCA, the California Desert Conservation Area (CDCA), in accordance with the provisions of the *California Desert Conservation Area Plan 1980, as Amended* (BLM 1999).

[2] Although the MPDS developed for this PEIS (Section 2.2.1 and Appendix B) did not exclude all of these lands at the screening level, they will be excluded from wind energy development.

- Entities seeking to develop a wind energy project on BLM-administered lands shall consult with appropriate federal, state, and local agencies regarding specific projects as early in the planning process as appropriate to ensure that all potential construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- The BLM will initiate government-to-government consultation with Indian Tribal governments whose interests might be directly and substantially affected by activities on BLM-administered lands as early in the planning process as appropriate to ensure that construction, operation, and decommissioning issues and concerns are identified and adequately addressed.

- Entities seeking to develop a wind energy project on BLM-administered lands, in conjunction with BLM Washington Office (WO) and Field Office (FO) staff, shall consult with the U.S. Department of Defense (DoD) regarding the location of wind power projects and turbine siting as early in the planning process as appropriate. This consultation shall occur concurrently at both the installation/field level and the Pentagon/BLM WO level. An interagency protocol agreement is being developed to establish a consultation process and to identify the scope of issues for consultation. Lands withdrawn for military purposes are under the administrative jurisdiction of the DoD or a military service and are not available for issuance of wind energy authorizations by the BLM.

- The BLM will consult with the U.S. Fish and Wildlife Service (USFWS) as required by Section 7 of the Endangered Species Act of 1973 (ESA). The specific consultation requirements will be determined on a project-by-project basis.

- The BLM will consult with the State Historic Preservation Office (SHPO) as required by Section 106 of the National Historic Preservation Act of 1966 (NHPA). The specific consultation requirements will be determined on a project-by-project basis. If programmatic Section 106 consultations have been conducted and are adequate to cover a proposed project, additional consultation may not be needed.

- Existing land use plans will be amended, as appropriate, to (1) adopt provisions of the BLM's Wind Energy Development Program, (2) identify land considered to be available for wind energy development, and (3) identify land that will not be available for wind energy development.

- The level of environmental analysis to be required under NEPA for individual wind power projects will be determined at the FO level. For many projects, it may be determined that a tiered environmental assessment (EA) is appropriate in lieu of an EIS. To the extent that the PEIS addresses anticipated issues and

concerns associated with an individual project, including potential cumulative impacts, the BLM will tier off of the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses. The site-specific NEPA analyses will include analyses of project site configuration and micrositing considerations, monitoring program requirements, and appropriate mitigation measures. In particular, the mitigation measures discussed in Chapter 5 of the PEIS may be consulted in determining site-specific requirements. Public involvement will be incorporated into all wind energy development projects to ensure that all concerns and issues are identified and adequately addressed. In general, the scope of the NEPA analyses will be limited to the proposed action on BLM-administered public lands; however, if access to proposed development on adjacent non-BLM-administered lands is entirely dependent on obtaining ROW access across BLM-administered public lands and there are no alternatives to that access, the NEPA analysis for the proposed ROW may need to assess the environmental effects from that proposed development. The BLM's analyses of ROW access projects may tier off of the PEIS to the extent that the proposed project falls within the scope of the PEIS analyses.

- Site-specific environmental analyses will tier from the PEIS and identify and assess any cumulative impacts that are beyond the scope of the cumulative impacts addressed in the PEIS.

- The Categorical Exclusion (CX) applicable to the issuance of short-term ROWs or land use authorizations may be applicable to some site monitoring and testing activities. The relevant CX, established for the BLM in the DOI Departmental Manual 516, Chapter 11, Sec. 11.5, E(19) (DOI 2004), encompasses "issuance of short-term (3 years or less) rights-of-way or land use authorizations for such uses as storage sites, apiary sites, and construction sites where the proposal includes rehabilitation to restore the land to its natural or original condition."

- The BLM will require financial bonds for all wind energy development projects on BLM-administered public lands to ensure compliance with the terms and conditions of the rights-of-way authorization and the requirements of applicable regulatory requirements, including reclamation costs. The amount of the required bond will be determined during the rights-of-way authorization process on the basis of site-specific and project-specific factors. The BLM may also require financial bonds for site monitoring and testing authorizations.

- Entities seeking to develop a wind energy project on BLM-administered public lands shall develop a project-specific Plan of Development (POD) that incorporates all BMPs and, as appropriate, the requirements of other existing and relevant BLM mitigation guidance, including the BLM's interim off-site mitigation guidance (BLM 2005a). Additional mitigation measures will be

incorporated into the POD and into the ROW authorization as project stipulations, as needed, to address site-specific and species-specific issues. The POD will include a site plan showing the locations of turbines, roads, power lines, other infrastructure, and other areas of short- and long-term disturbance.

- The BLM will incorporate management goals and objectives specific to habitat conservation for species of concern (e.g., sage-grouse), as appropriate, into the POD for proposed wind energy projects.

- The BLM will consider the visual resource values of the public lands involved in proposed wind energy development projects, consistent with BLM Visual Resource Management (VRM) policies and guidance. The BLM will work with the ROW applicant to incorporate visual design considerations into the planning and design of the project to minimize potential visual impacts of the proposal and to meet the VRM objectives of the area.

- Operators of wind power facilities on BLM-administered public lands shall consult with the BLM and other appropriate federal, state, and local agencies regarding any planned upgrades or changes to the wind facility design or operation. Proposed changes of this nature may require additional environmental analysis and/or revision of the POD.

- The BLM's Wind Energy Development Program will incorporate adaptive management strategies to ensure that potential adverse impacts of wind energy development are avoided (if possible), minimized, or mitigated to acceptable levels. The programmatic policies and BMPs will be updated and revised as new data regarding the impacts of wind power projects become available. At the project-level, operators will be required to develop monitoring programs to evaluate the environmental conditions at the site through all phases of development, to establish metrics against which monitoring observations can be measured, to identify potential mitigation measures, and to establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and project-specific stipulations.

A.2 Best Management Practices (BMPs)

The BMPs will be adopted as required elements of project-specific PODs and/or as ROW authorization stipulations. They are categorized by development activity: site monitoring and testing, development of the POD, construction, operation, and decommissioning. The BMPs for development of the POD identify required elements of the POD needed to address potential impacts associated with subsequent phases of development.

A.2.1 Site Monitoring and Testing

- The area disturbed by installation of meteorological towers (i.e., footprint) shall be kept to a minimum.

- Existing roads shall be used to the maximum extent feasible. If new roads are necessary, they shall be designed and constructed to the appropriate standard.

- Meteorological towers shall not be located in sensitive habitats or in areas where ecological resources known to be sensitive to human activities (e.g., prairie grouse) are present. Installation of towers shall be scheduled to avoid disruption of wildlife reproductive activities or other important behaviors.

- Meteorological towers installed for site monitoring and testing shall be inspected periodically for structural integrity.

A.2.2 Plan of Development Preparation

General

- The BLM and operators shall contact appropriate agencies, property owners, and other stakeholders early in the planning process to identify potentially sensitive land uses and issues, rules that govern wind energy development locally, and land use concerns specific to the region.

- Available information describing the environmental and sociocultural conditions in the vicinity of the proposed project shall be collected and reviewed as needed to predict potential impacts of the project.

- The Federal Aviation Administration (FAA)-required notice of proposed construction shall be made as early as possible to identify any air safety measures that would be required.

- To plan for efficient use of the land, necessary infrastructure requirements shall be consolidated wherever possible, and current transmission and market access shall be evaluated carefully.

- The project shall be planned to utilize existing roads and utility corridors to the maximum extent feasible, and to minimize the number and length/size of new roads, lay-down areas, and borrow areas.

- A monitoring program shall be developed to ensure that environmental conditions are monitored during the construction, operation, and

decommissioning phases. The monitoring program requirements, including adaptive management strategies, shall be established at the project level to ensure that potential adverse impacts of wind energy development are mitigated. The monitoring program shall identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures and BMPs.

- "Good housekeeping" procedures shall be developed to ensure that during operation the site will be kept clean of debris, garbage, fugitive trash or waste, and graffiti; to prohibit scrap heaps and dumps; and to minimize storage yards.

Wildlife and Other Ecological Resources

- Operators shall review existing information on species and habitats in the vicinity of the project area to identify potential concerns.

- Operators shall conduct surveys for federal and/or state-protected species and other species of concern (including special status plant and animal species) within the project area and design the project to avoid (if possible), minimize, or mitigate impacts to these resources.

- Operators shall identify important, sensitive, or unique habitats in the vicinity of the project and design the project to avoid (if possible), minimize, or mitigate impacts to these habitats (e.g., locate the turbines, roads, and ancillary facilities in the least environmentally sensitive areas; i.e., away from riparian habitats, streams, wetlands, drainages, or critical wildlife habitats).

- The BLM will prohibit the disturbance of any population of federal listed plant species.

- Operators shall evaluate avian and bat use of the project area and design the project to minimize or mitigate the potential for bird and bat strikes (e.g., development shall not occur in riparian habitats and wetlands). Scientifically rigorous avian and bat use surveys shall be conducted; the amount and extent of ecological baseline data required shall be determined on a project basis.

- Turbines shall be configured to avoid landscape features known to attract raptors, if site studies show that placing turbines there would pose a significant risk to raptors.

- Operators shall determine the presence of bat colonies and avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies; in known migration corridors; or in known flight paths between colonies and feeding areas.

- Operators shall determine the presence of active raptor nests (i.e., raptor nests used during the breeding season). Measures to reduce raptor use at a project site (e.g., minimize road cuts, maintain either no vegetation or nonattractive plant species around the turbines) shall be considered.

- A habitat restoration plan shall be developed to avoid (if possible), minimize, or mitigate negative impacts on vulnerable wildlife while maintaining or enhancing habitat values for other species. The plan shall identify revegetation, soil stabilization, and erosion reduction measures that shall be implemented to ensure that all temporary use areas are restored. The plan shall require that restoration occur as soon as possible after completion of activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.

- Procedures shall be developed to mitigate potential impacts to special status species. Such measures could include avoidance, relocation of project facilities or lay-down areas, and/or relocation of biota.

- Facilities shall be designed to discourage their use as perching or nesting substrates by birds. For example, power lines and poles shall be configured to minimize raptor electrocutions and discourage raptor and raven nesting and perching.

Visual Resources

- The public shall be involved and informed about the visual site design elements of the proposed wind energy facilities. Possible approaches include conducting public forums for disseminating information, offering organized tours of operating wind developments, and using computer simulation and visualization techniques in public presentations.

- Turbine arrays and turbine design shall be integrated with the surrounding landscape. Design elements to be addressed include visual uniformity, use of tubular towers, proportion and color of turbines, nonreflective paints, and prohibition of commercial messages on turbines.

- Other site design elements shall be integrated with the surrounding landscape. Elements to address include minimizing the profile of the ancillary structures, burial of cables, prohibition of commercial symbols, and lighting. Regarding

lighting, efforts shall be made to minimize the need for and amount of lighting on ancillary structures.

Roads

- An access road siting and management plan shall be prepared incorporating existing BLM standards regarding road design, construction, and maintenance such as those described in the BLM 9113 Manual (BLM 1985) and the *Surface Operating Standards for Oil and Gas Exploration and Development* (RMRCC 1989) (i.e., the Gold Book).

Ground Transportation

- A transportation plan shall be developed, particularly for the transport of turbine components, main assembly cranes, and other large pieces of equipment. The plan shall consider specific object sizes, weights, origin, destination, and unique handling requirements and shall evaluate alternative transportation approaches. In addition, the process to be used to comply with unique state requirements and to obtain all necessary permits shall be clearly identified.

- A traffic management plan shall be prepared for the site access roads to ensure that no hazards would result from the increased truck traffic and that traffic flow would not be adversely impacted. This plan shall incorporate measures such as informational signs, flaggers when equipment may result in blocked throughways, and traffic cones to identify any necessary changes in temporary lane configuration.

Noise

- Proponents of a wind energy development project shall take measurements to assess the existing background noise levels at a given site and compare them with the anticipated noise levels associated with the proposed project.

Noxious Weeds and Pesticides

- Operators shall develop a plan for control of noxious weeds and invasive species, which could occur as a result of new surface disturbance activities at the site. The plan shall address monitoring, education of personnel on weed identification, the manner in which weeds spread, and methods for treating infestations. The use of certified weed-free mulching shall be required. If trucks and construction equipment are arriving from locations with known

invasive vegetation problems, a controlled inspection and cleaning area shall be established to visually inspect construction equipment arriving at the project area and to remove and collect seeds that may be adhering to tires and other equipment surfaces.

- If pesticides are used on the site, an integrated pest management plan shall be developed to ensure that applications would be conducted within the framework of BLM and DOI policies and entail only the use of EPA-registered pesticides. Pesticide use shall be limited to nonpersistent, immobile pesticides and shall only be applied in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications.

Cultural/Historic Resources

- The BLM will consult with Indian Tribal governments early in the planning process to identify issues regarding the proposed wind energy development, including issues related to the presence of cultural properties, access rights, disruption to traditional cultural practices, and impacts to visual resources important to the Tribe(s).

- The presence of archaeological sites and historic properties in the area of potential effect shall be determined on the basis of a records search of recorded sites and properties in the area and/or, depending on the extent and reliability of existing information, an archaeological survey. Archaeological sites and historic properties present in the area of potential effect shall be reviewed to determine whether they meet the criteria of eligibility for listing on the *National Register of Historic Places* (NRHP).

- When any rights-of-way application includes remnants of a National Historic Trail, is located within the viewshed of a National Historic Trail's designated centerline, or includes or is within the viewshed of a trail eligible for listing on the NRHP, the operator shall evaluate the potential visual impacts to the trail associated with the proposed project and identify appropriate mitigation measures for inclusion as stipulations in the POD.

- If cultural resources are present at the site, or if areas with a high potential to contain cultural material have been identified, a cultural resources management plan (CRMP) shall be developed. This plan shall address mitigation activities to be taken for cultural resources found at the site. Avoidance of the area is always the preferred mitigation option. Other mitigation options include archaeological survey and excavation (as warranted) and monitoring. If an area exhibits a high potential, but no artifacts were observed during an archaeological survey, monitoring by a qualified archaeologist could be required during all excavation and

earthmoving in the high-potential area. A report shall be prepared documenting these activities. The CRMP also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of artifacts and destruction of property on public land.

Paleontological Resources

- Operators shall determine whether paleontological resources exist in a project area on the basis of the sedimentary context of the area, a records search for past paleontological finds in the area, and/or, depending on the extent of existing information, a paleontological survey.

- If paleontological resources are present at the site, or if areas with a high potential to contain paleontological material have been identified, a paleontological resources management plan shall be developed. This plan shall include a mitigation plan for collection of the fossils; mitigation could include avoidance, removal of fossils, or monitoring. If an area exhibits a high potential but no fossils were observed during survey, monitoring by a qualified paleontologist could be required during all excavation and earthmoving in the sensitive area. A report shall be prepared documenting these activities. The paleontological resources management plan also shall (1) establish a monitoring program, (2) identify measures to prevent potential looting/vandalism or erosion impacts, and (3) address the education of workers and the public to make them aware of the consequences of unauthorized collection of fossils on public land.

Hazardous Materials and Waste Management

- Operators shall develop a hazardous materials management plan addressing storage, use, transportation, and disposal of each hazardous material anticipated to be used at the site. The plan shall identify all hazardous materials that would be used, stored, or transported at the site. It shall establish inspection procedures, storage requirements, storage quantity limits, inventory control, nonhazardous product substitutes, and disposition of excess materials. The plan shall also identify requirements for notices to federal and local emergency response authorities and include emergency response plans.

- Operators shall develop a waste management plan identifying the waste streams that are expected to be generated at the site and addressing hazardous waste determination procedures, waste storage locations, waste-specific management and disposal requirements, inspection procedures, and waste

minimization procedures. This plan shall address all solid and liquid wastes that may be generated at the site.

- Operators shall develop a spill prevention and response plan identifying where hazardous materials and wastes are stored on site, spill prevention measures to be implemented, training requirements, appropriate spill response actions for each material or waste, the locations of spill response kits on site, a procedure for ensuring that the spill response kits are adequately stocked at all times, and procedures for making timely notifications to authorities.

Storm Water

- Operators shall develop a storm water management plan for the site to ensure compliance with applicable regulations and prevent off-site migration of contaminated storm water or increased soil erosion.

Human Health and Safety

- A safety assessment shall be conducted to describe potential safety issues and the means that would be taken to mitigate them, including issues such as site access, construction, safe work practices, security, heavy equipment transportation, traffic management, emergency procedures, and fire control.

- A health and safety program shall be developed to protect both workers and the general public during construction, operation, and decommissioning of a wind energy project. Regarding occupational health and safety, the program shall identify all applicable federal and state occupational safety standards; establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses; Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents; and measures for reducing occupational electric and magnetic fields [EMF] exposures); establish fire safety evacuation procedures; and define safety performance standards (e.g., electrical system standards and lightning protection standards). The program shall include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies shall be established.

- Regarding public health and safety, the health and safety program shall establish a safety zone or setback for wind turbine generators from residences and occupied buildings, roads, rights-of-ways, and other public access areas that is sufficient to prevent accidents resulting from the operation of wind turbine generators. It shall identify requirements for temporary fencing

around staging areas, storage yards, and excavations during construction or decommissioning activities. It shall also identify measures to be taken during the operation phase to limit public access to hazardous facilities (e.g., permanent fencing would be installed only around electrical substations, and turbine tower access doors would be locked).

- Operators shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) shall be identified and addressed in the traffic management plan.

- If operation of the wind turbines is expected to cause significant adverse impacts to nearby residences and occupied buildings from shadow flicker, low-frequency sound, or EMF, site-specific recommendations for addressing these concerns shall be incorporated into the project design (e.g., establishing a sufficient setback from turbines).

- The project shall be planned to minimize electromagnetic interference (EMI) (e.g., impacts to radar, microwave, television, and radio transmissions) and comply with Federal Communications Commission [FCC] regulations. Signal strength studies shall be conducted when proposed locations have the potential to impact transmissions. Potential interference with public safety communication systems (e.g., radio traffic related to emergency activities) shall be avoided.

- The project shall be planned to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.

- Operators shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire.

A.2.3 Construction

General

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the construction phase, as appropriate.

- The area disturbed by construction and operation of a wind energy development project (i.e., footprint) shall be kept to a minimum.

- The number and size/length of roads, temporary fences, lay-down areas, and borrow areas shall be minimized.

- Topsoil from all excavations and construction activities shall be salvaged and reapplied during reclamation.

- All areas of disturbed soil shall be reclaimed using weed-free native grasses, forbs, and shrubs. Reclamation activities shall be undertaken as early as possible on disturbed areas.

- All electrical collector lines shall be buried in a manner that minimizes additional surface disturbance (e.g., along roads or other paths of surface disturbance). Overhead lines may be used in cases where burial of lines would result in further habitat disturbance.

- Operators shall identify unstable slopes and local factors that can induce slope instability (such as groundwater conditions, precipitation, earthquake activities, slope angles, and the dip angles of geologic strata). Operators also shall avoid creating excessive slopes during excavation and blasting operations. Special construction techniques shall be used where applicable in areas of steep slopes, erodible soil, and stream channel crossings.

- Erosion controls that comply with county, state, and federal standards shall be applied. Practices such as jute netting, silt fences, and check dams shall be applied near disturbed areas.

Wildlife

- Guy wires on permanent meteorological towers shall be avoided, however, may be necessary on temporary meteorological towers installed during site monitoring and testing.

- In accordance with the habitat restoration plan, restoration shall be undertaken as soon as possible after completion of construction activities to reduce the amount of habitat converted at any one time and to speed up the recovery to natural habitats.

- All construction employees shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, pets shall not be permitted on site during construction.

Visual Resources

- Operators shall reduce visual impacts during construction by minimizing areas of surface disturbance, controlling erosion, using dust suppression techniques, and restoring exposed soils as closely as possible to their original contour and vegetation.

Roads

- Existing roads shall be used, but only if in safe and environmentally sound locations. If new roads are necessary, they shall be designed and constructed to the appropriate standard and be no higher than necessary to accommodate their intended functions (e.g., traffic volume and weight of vehicles). Excessive grades on roads, road embankments, ditches, and drainages shall be avoided, especially in areas with erodible soils. Special construction techniques shall be used, where applicable. Abandoned roads and roads that are no longer needed shall be recontoured and revegetated.

- Access roads and on-site roads shall be surfaced with aggregate materials, wherever appropriate.

- Access roads shall be located to follow natural contours and minimize side hill cuts.

- Roads shall be located away from drainage bottoms and avoid wetlands, if practicable.

- Roads shall be designed so that changes to surface water runoff are avoided and erosion is not initiated.

- Access roads shall be located to minimize stream crossings. All structures crossing streams shall be located and constructed so that they do not decrease channel stability or increase water velocity. Operators shall obtain all applicable federal and state permits.

- Existing drainage systems shall not be altered, especially in sensitive areas such as erodible soils or steep slopes. Potential soil erosion shall be controlled at culvert outlets with appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained regularly.

Ground Transportation

- Project personnel and contractors shall be instructed and required to adhere to speed limits commensurate with road types, traffic volumes, vehicle types,

and site-specific conditions, to ensure safe and efficient traffic flow and to reduce wildlife collisions and disturbance and airborne dust.

- Traffic shall be restricted to the roads developed for the project. Use of other unimproved roads shall be restricted to emergency situations.

- Signs shall be placed along construction roads to identify speed limits, travel restrictions, and other standard traffic control information. To minimize impacts on local commuters, consideration shall be given to limiting construction vehicles traveling on public roadways during the morning and late afternoon commute time.

Air Emissions

- Dust abatement techniques shall be used on unpaved, unvegetated surfaces to minimize airborne dust.

- Speed limits (e.g., 25 mph [40 km/h]) shall be posted and enforced to reduce airborne fugitive dust.

- Construction materials and stockpiled soils shall be covered if they are a source of fugitive dust.

- Dust abatement techniques shall be used before and during surface clearing, excavation, or blasting activities.

Excavation and Blasting Activities

- Operators shall gain a clear understanding of the local hydrogeology. Areas of groundwater discharge and recharge and their potential relationships with surface water bodies shall be identified.

- Operators shall avoid creating hydrologic conduits between two aquifers during foundation excavation and other activities.

- Foundations and trenches shall be backfilled with originally excavated material as much as possible. Excess excavation materials shall be disposed of only in approved areas or, if suitable, stockpiled for use in reclamation activities.

- Borrow material shall be obtained only from authorized and permitted sites. Existing sites shall be used in preference to new sites.

- Explosives shall be used only within specified times and at specified distances from sensitive wildlife or streams and lakes, as established by the BLM or other federal and state agencies.

Noise

- Noisy construction activities (including blasting) shall be limited to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 10 p.m.) and weekdays.

- All equipment shall have sound-control devices no less effective than those provided on the original equipment. All construction equipment used shall be adequately muffled and maintained.

- All stationary construction equipment (i.e., compressors and generators) shall be located as far as practicable from nearby residences.

- If blasting or other noisy activities are required during the construction period, nearby residents shall be notified in advance.

Cultural and Paleontological Resources

- Unexpected discovery of cultural or paleontological resources during construction shall be brought to the attention of the responsible BLM authorized officer immediately. Work shall be halted in the vicinity of the find to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed.

Hazardous Materials and Waste Management

- Secondary containment shall be provided for all on-site hazardous materials and waste storage, including fuel. In particular, fuel storage (for construction vehicles and equipment) shall be a temporary activity occurring only for as long as is needed to support construction activities.

- Wastes shall be properly containerized and removed periodically for disposal at appropriate off-site permitted disposal facilities.

- In the event of an accidental release to the environment, the operator shall document the event, including a root cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the BLM authorized officer and other federal and state agencies, as required.

- Any wastewater generated in association with temporary, portable sanitary facilities shall be periodically removed by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews shall be adequate to support expected on-site personnel and shall be removed at completion of construction activities.

Public Health and Safety

- Temporary fencing shall be installed around staging areas, storage yards, and excavations during construction to limit public access.

A.2.4 Operation

General

- All control and mitigation measures established for the project in the POD and the resource-specific management plans that are part of the POD shall be maintained and implemented throughout the operational phase, as appropriate. These control and mitigation measures shall be reviewed and revised, as needed, to address changing conditions or requirements at the site, throughout the operational phase. This adaptive management approach would help ensure that impacts from operations are kept to a minimum.

- Inoperative turbines shall be repaired, replaced, or removed in a timely manner. Requirements to do so shall be incorporated into the due diligence provisions of the rights-of-way authorization. Operators will be required to demonstrate due diligence in the repair, replacement, or removal of turbines; failure to do so could result in termination of the rights-of-way authorization.

Wildlife

- Employees, contractors, and site visitors shall be instructed to avoid harassment and disturbance of wildlife, especially during reproductive (e.g., courtship and nesting) seasons. In addition, any pets shall be controlled to avoid harassment and disturbance of wildlife.

- Observations of potential wildlife problems, including wildlife mortality, shall be reported to the BLM authorized officer immediately.

Ground Transportation

- Ongoing ground transportation planning shall be conducted to evaluate road use, minimize traffic volume, and ensure that roads are maintained adequately to minimize associated impacts.

Monitoring Program

- Site monitoring protocols defined in the POD shall be implemented. These will incorporate monitoring program observations and additional mitigation measures into standard operating procedures and BMPs to minimize future environmental impacts.

- Results of monitoring program efforts shall be provided to the BLM authorized officer.

Public Health and Safety

- Permanent fencing shall be installed and maintained around electrical substations, and turbine tower access doors shall be locked to limit public access.

- In the event an installed wind energy development project results in EMI, the operator shall work with the owner of the impacted communications system to resolve the problem. Additional warning information may also need to be conveyed to aircraft with onboard radar systems so that echoes from wind turbines can be quickly recognized.

A.2.5 Decommissioning

General

- Prior to the termination of the rights-of-way authorization, a decommissioning plan shall be developed and approved by the BLM. The decommissioning plan shall include a site reclamation plan and monitoring program.

- All management plans, BMPs, and stipulations developed for the construction phase shall be applied to similar activities during the decommissioning phase.

- All turbines and ancillary structures shall be removed from the site.

- Topsoil from all decommissioning activities shall be salvaged and reapplied during final reclamation.

- All areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs.

- The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting.

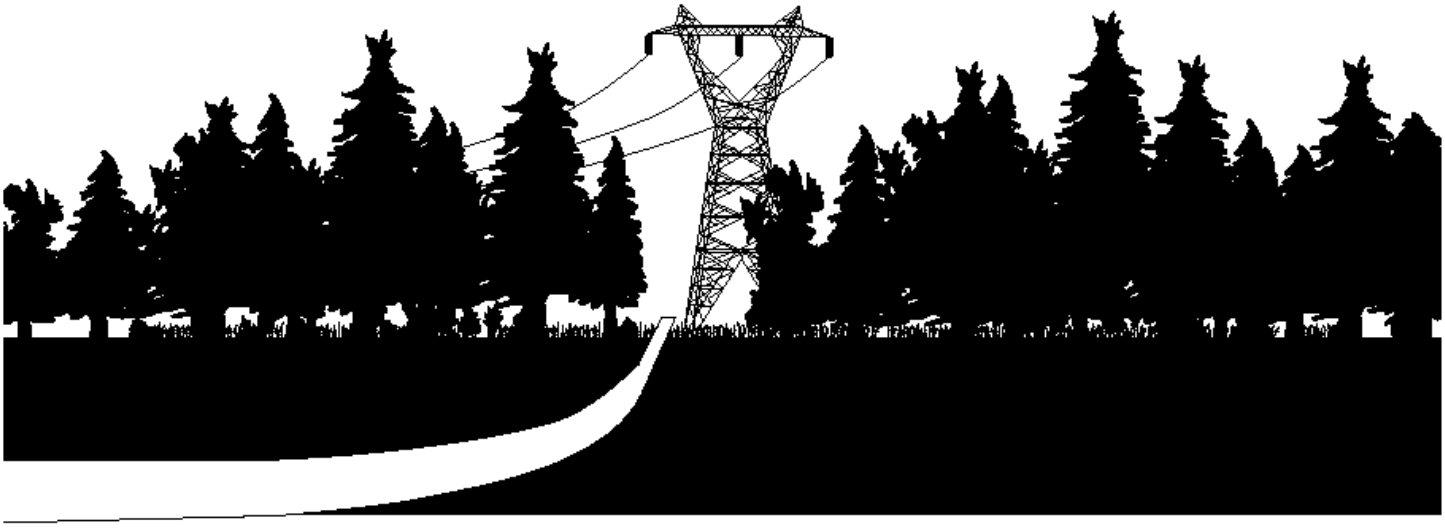
Appendix D: Western Area Power Administration Construction Standards

Western
AREA POWER
ADMINISTRATION

CONSTRUCTION STANDARDS

STANDARD 13

ENVIRONMENTAL QUALITY PROTECTION



July 2009

SAFETY
A HABIT TO LIVE BY

TABLE OF CONTENTS

Page Number

SECTION 13.1--CONTRACTOR FURNISHED DATA 4
1. Recycled Material Quantity Report 4
2. Recovered Material and Biobased Products Report 4
3. Reclaimed Refrigerant Receipt 4
4. Waste Material Quantity Report 4
5. Spill Prevention Notification and Cleanup Plan (Plan) 4
6. Tanker Oil Spill Prevention and Response Plan 4
7. Pesticide Use Plan 4
8. Treated Wood Pole and Members Recycling Consumer Information Receipt 4
9. Prevention of Air Pollution 5
10. Asbestos Licenses or Certifications 5
11. Lead Paint Notices 5
12. Water Pollution Permits 5
13. Pcb Test Report 5
14. Oil and Oil-Filled Electrical Equipment Receipt 5
15. Osha Pcb Training Records 5
16. Cleanup Work Management Plan 5
17. Post Cleanup Report 5

SECTION 13.2--ENVIRONMENTAL REQUIREMENTS 6

SECTION 13.3--LANDSCAPE PRESERVATION 7
1. General 7
2. Construction Roads 7
3. Construction Facilities 7

SECTION 13.4--PRESERVATION OF CULTURAL AND PALEONTOLOGICAL RESOURCES 8
1. General 8
2. Known Cultural or Paleontological Sites 8
3. Unknown Cultural or Paleontological Sites 8

SECTION 13.5--NOXIOUS WEED CONTROL 9
1. General 9

SECTION 13.6--RECYCLED MATERIAL QUANTITIES 10
1. General 10
2. Recycled Material Quantity Report 10

SECTION 13.7--USE OF RECOVERED MATERIAL AND BIOBASED PRODUCTS 11
1. Recovered Material Products 11
2. Biobased Products 12
3. Recovered Material and Biobased Products Report 14

SECTION 13.8--DISPOSAL OF WASTE MATERIAL 16
1. General 16
2. Hazardous, Universal, and Non-Hazardous Wastes 16
3. Used Oil 16
4. Recyclable Material 16
5. Refrigerants and Receipts 16
6. Halons 16
7. Sulfur Hexaflouride (SF_6) 16
8. Waste Material Quantity Report 16

SECTION 13.9--CONTRACTOR'S LIABILITY FOR REGULATED MATERIAL INCIDENTS 17
1. General 17
2. Supervision 17

SECTION 13.10--POLLUTANT SPILL PREVENTION, NOTIFICATION, AND CLEANUP 18
1. General 18
2. Spill Prevention Notification and Cleanup Plan (Plan) 18
3. Tanker Oil Spill Prevention and Response Plan 18

SECTION 13.11--PESTICIDES 19
1. General 19
2. Environmental Protection Agency Registration 19
3. Pesticide Use Plan 19

SECTION 13.12--TREATED WOOD POLES AND MEMBERS RECYCLING OR DISPOSAL 20

SECTION 13.13--PREVENTION OF AIR POLLUTION 21
1. General 21
2. Machinery Air Emissions 21
3. Dust Abatement 21

SECTION 13.14--HANDLING AND MANAGEMENT OF ASBESTOS CONTAINING MATERIAL 22
1. General 22
2. Transportation of Asbestos Waste 22
3. Certificates of Disposal And Receipts 22

SECTION 13.15--MATERIAL WITH LEAD-BASED PAINT 23
1. General 23
2. Transfer of Property 23
3. Certificates of Disposal And Receipts 23

SECTION 13.16--PREVENTION OF WATER POLLUTION 24
1. General 24
2. Permits 24
3. Excavated Material and Other Contaminant Sources 24
4. Management of Waste Concrete or Washing of Concrete Trucks 24
5. Stream Crossings 24

SECTION 13.17--TESTING, DRAINING, REMOVAL, AND DISPOSAL OF OIL-FILLED ELECTRICAL EQUIPMENT 25
1. Sampling and Testing Of Insulating Oil For Pcb Content 25
2. PCB Test Report 25
3. Oil Containing PCB 25
4. Removal and Disposal of Insulating Oil and Oil-Filled Electrical Equipment 25
5. Oil and Oil-Filled Electrical Equipment Receipt 25

SECTION 13.18--REMOVAL OF OIL-CONTAMINATED MATERIAL 26
1. General 26
2. Cleanup Work Management Plan 26
3. Excavation and Cleanup 26
4. Temporary Stockpiling 26
5. Sampling and Testing 26
6. Transportion and Disposal Of Contaminated Material 26
7. Post Cleanup Report 26

SECTION 13.19--CONSERVATION OF NATURAL RESOURCES 28
1. General 28
2. Known Occurrence of Protected Species or Habitat 28
3. Unknown Occurrence of Protected Species or Habitat 28

SECTION 13.1--CONTRACTOR FURNISHED DATA

1. RECYCLED MATERIAL QUANTITY REPORT: Submit quantities for recycled material listed in Section 13.6, "Recycled Material Quantities", to the COR after completion and prior to submittal of final invoice.

2. RECOVERED MATERIAL AND BIOBASED PRODUCTS REPORT: Provide the COR the following information for purchases of items listed in Section 13.7, "Use of Recovered Material And Biobased Products":

   (1) Quantity and cost of listed items with recovered or biobased material content and quantity and cost of listed items without recovered or biobased material content after completion and prior to submittal of final invoice.

3. RECLAIMED REFRIGERANT RECEIPT: A receipt from the reclaimer stating that the refrigerant was reclaimed, the amount and type of refrigerant, and the date shall be submitted to the COR after completion and prior to submittal of final invoice in accordance with Section 13.8.5, "Refrigerants And Receipts".

4. WASTE MATERIAL QUANTITY REPORT: Submit quantities of total project waste material disposal as listed below to the COR after completion and prior to submittal of final invoice in accordance with Section 13.8.8, "Waste Material Quantity Report".

   (1) Sanitary Wastes: Volume in cubic yards or weight in pounds.

   (2) Hazardous or Universal Wastes: Weight in pounds.

   (3) PCB Wastes: Weight in pounds.

   (4) Other regulated wastes (e.g., lead-based paint or asbestos): Weight in pounds (specify type of waste in report).

5. SPILL PREVENTION NOTIFICATION AND CLEANUP PLAN (Plan): Submit the Plan as described in Section 13.10.2, "Spill Prevention Notification and Cleanup Plan", to the COR for approval 14 days prior to start of work. Approval of the Plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

6. TANKER OIL SPILL PREVENTION AND RESPONSE PLAN: Submit the Plan as described in Section 13.10.3, "Tanker Oil Spill Prevention and Response Plan", to the COR for approval 14 days prior to start of work. Approval of the Plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

7. PESTICIDE USE PLAN: Submit two copies of a pesticide use plan as described in Section 13.11.3, "Pesticide Use Plan", to the COR for approval 14 days prior to use. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Within seven days after application, submit a written report in accordance with Standard 2 – Sitework, Section 2.1.1.5, "Soil-Applied Herbicide".

8. TREATED WOOD POLE AND MEMBERS RECYCLING CONSUMER INFORMATION RECEIPT: Submit treated wood pole and members consumer receipt forms to the COR after completion and prior to submittal of final invoice (see 13.12, "Treated Wood Poles and Members Recycling or Disposal").

9. PREVENTION OF AIR POLLUTION: Submit a copy of permits, if required, from Federal, State, or local agencies to the COR 14 days prior to the start of work.

10. ASBESTOS LICENSES OR CERTIFICATIONS: Submit a copy of licenses and/or certifications for asbestos work as described in 13.14, ~~"~~Handling and Management of Asbestos Containing Material" paragraph a., to the COR prior to work. Submit copies of certificates of disposal and/or receipts for waste to the COR after completion and prior to submittal of final invoice.

11. LEAD PAINT NOTICES: Submit a copy of lead paint notices as described in 13.15, ~~"~~Material with Lead-based Paint" paragraph b., to the COR upon completion and prior to submittal of final invoice. Submit copies of certificates of disposal and/or receipts for waste to the COR after completion and prior to submittal of final invoice.

12. WATER POLLUTION PERMITS: Submit copies of any water pollution permits as described in 13.16, ~~"~~Prevention of Water Pollution" paragraph b., to the COR prior to work.

13. PCB TEST REPORT: Submit a PCB test report as described in 13.17, ~~"~~Testing, Draining, Removal, and Disposal of Oil-filled Electrical Equipment" paragraph b., prior to draining, removal, or disposal of oil or oil-filled equipment that is designated for disposal.

14. OIL AND OIL-FILLED ELECTRICAL EQUIPMENT RECEIPT: Obtain and submit a receipt for oil and oil-filled equipment transported and disposed, recycled, or reprocessed as described in 13.17, ~~"~~Testing, Draining, Removal, and Disposal of Oil-filled Electrical Equipment", to the COR upon completion and prior to submittal of final invoice.

15. OSHA PCB TRAINING RECORDS: Submit employee training documentation records to the COR 14 days prior to the start of work as described in 13.18.1.

16. CLEANUP WORK MANAGEMENT PLAN: Submit a Cleanup Work Management Plan as described in 13.18, ~~"~~Removal of Oil-contaminated Material" paragraph b., to the COR for approval 14 days prior to the start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

17. POST CLEANUP REPORT: Submit a Post-Cleanup Report as described in 13.18, ~~"~~Removal of Oil-contaminated Material" paragraph g., to the COR upon completion and prior to submittal of final invoice.

SECTION 13.2--ENVIRONMENTAL REQUIREMENTS

Comply with Federal, State, and local environmental laws and regulations. The sections in this Standard further specify the requirements.

SECTION 13.3--LANDSCAPE PRESERVATION

1. GENERAL: Preserve landscape features in accordance with the contract clause titled ―Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements."

2. CONSTRUCTION ROADS: Location, alignment, and grade of construction roads shall be subject to the COR's approval. When no longer required, construction roads shall be restored to their original condition. Surfaces of construction roads shall be scarified to facilitate natural revegetation, provide for proper drainage, and prevent erosion. If re-vegetation is required, use regionally native plants.

3. CONSTRUCTION FACILITIES: Shop, office, and yard areas shall be located and arranged in a manner to preserve trees and vegetation to the maximum practicable extent and prevent impact on sensitive riparian areas and flood plains. Storage and construction buildings, including concrete footings and slabs, shall be removed from the site prior to contract completion. The area shall be re-graded as required so that all surfaces drain naturally, blend with the natural terrain, and are left in a condition that will facilitate natural revegetation, provide for proper drainage, and prevent erosion or transport of sediment and pollutants. If re-vegetation is required, use regionally native plants.

SECTION 13.4--PRESERVATION OF CULTURAL AND PALEONTOLOGICAL RESOURCES

1. GENERAL: Do not remove or alter cultural artifacts or paleontological resources (fossils). Cultural artifacts may be of scientific or cultural importance and include bones, pottery, glass, projectile points (arrowheads), other stone or metal tools, historic buildings, and features. Paleontological resources can be of scientific importance and include mineralized animals and plants or trace fossils such as footprints. Both cultural and paleontological resources are protected by Federal Regulations during Federal construction projects. Contractor must always stay within Western's right-of-way and/or easement.

2. KNOWN CULTURAL OR PALEONTOLOGICAL SITES: Following issuance of notice to proceed, Western will provide two sets of plan and profile drawings showing sensitive areas located on or immediately adjacent to the transmission line right-of-way and/or facility. These areas shall be considered avoidance areas. Prior to any construction activity, the avoidance areas shall be marked on the ground in a manner approved by the COR. Instruct employees, subcontractors, and others that vehicular or equipment access to these areas is prohibited. If access is absolutely necessary, first obtain approval from the COR. Western will remove the markings during or following final cleanup. For some project work, Western will require an archaeological, paleontological or tribal monitor at or near cultural or paleontological site locations. The contractor shall work with the monitor to insure that sensitive locations are avoided. Where monitors are required, the monitor shall meet with the crew each morning to go over the day's work. The monitor will also conduct awareness training for all contractors prior to any work in the field. Untrained personnel shall not be allowed in the construction area. For areas designated as sensitive and requiring a monitor, the contractor may not access those areas without a monitor being present.

3. UNKNOWN CULTURAL OR PALEONTOLOGICAL SITES: On rare occasions cultural or paleontological sites may be discovered during excavation or other earth-moving activities.

   (1) Reporting: If evidence of a cultural or paleontological site is discovered, cease work in the area immediately and notify the COR of the location and nature of the findings. If a monitor is present, the monitor should also be notified. Stop all activities within a 200-foot radius of the discovery and do not proceed with work within that radius until directed to do so by the COR.

   (2) Care of Evidence: Protect the area. Do not remove, handle, alter, or damage artifacts or fossils uncovered during construction.

SECTION 13.5--NOXIOUS WEED CONTROL

1. GENERAL: Comply with Federal, state, and local noxious weed control regulations. Provide a "clean vehicle policy" while entering and leaving construction areas to prevent transport of noxious weed plants and/or seed. Transport only construction vehicles that are free of mud and vegetation debris to staging areas and the project right-of-way.

SECTION 13.6--RECYCLED MATERIAL QUANTITIES

1. GENERAL: Record quantities of the following material by category that is salvaged, recycled, reused, or reprocessed:

   (1) Transformers, Breakers: Weight without oil.

   (2) Electrical Conductors: Length in feet and Type (for example, ACSR, Copper, and gauge).

   (3) Steel: Weight in pounds or tons.

   (4) Aluminum: Weight in pounds or tons

   (5) Copper: Weight in pounds or tons..

   (6) Other Metals: Weight in pounds or tons.

   (7) Oil: Gallons (separate by type - less than 2 ppm PCB, 2 to 50 ppm PCB, and 50 or greater ppm PCB).

   (8) Gravel, Asphalt, Or Concrete: Weight in pounds or tons.

   (9) Batteries: Weight in pounds.

   (10) Wood Poles and Crossarms: Weight in pounds.

   (11) Wood construction material: Weight in pounds.

   (12) Cardboard: Weight in pounds.

   (13) Porcelain insulators: Weight in pounds.

2. RECYCLED MATERIAL QUANTITY REPORT: Submit quantities for recycled material listed above to the COR after completion and prior to submittal of final invoice.

SECTION 13.7--USE OF RECOVERED MATERIAL AND BIOBASED PRODUCTS

1. RECOVERED MATERIAL PRODUCTS: If the products listed below are obtained as part of this project, purchase the items with the highest recovered material content possible unless recovered material products are not available: 1) competitively within a reasonable time frame; 2) meeting reasonable performance standards as defined in the Standards or Project Specifications; or 3) at a reasonable price.

   (1) Construction Products:

      1) Building Insulation Products.

      2) Carpet.

      3) Carpet cushion.

      4) Cement and concrete containing coal fly ash, ground granulated blast furnace slag, cenospheres, or silica fume.

      5) Consolidated and reprocessed latex paint.

      6) Floor Tiles.

      7) Flowable fill.

      8) Laminated Paperboard.

      9) Modular threshold ramps.

      10) Nonpressure pipe.

      11) Patio Blocks.

      12) Railroad grade crossing surfaces.

      13) Roofing materials.

      14) Shower and restroom dividers/partitions.

      15) Structural Fiberboard.

   (2) Landscaping Products:

      1) Compost made from yard trimmings or food waste.
      2) Garden and soaker hoses.
      3) Hydraulic Mulch.
      4) Lawn and garden edging.
      5) Plastic lumber landscaping timbers and posts.

   (3) Non-paper Office Products:

      1) Binders, clipboards, file folders, clip portfolios, and presentation folders.
      2) Office furniture.
      3) Office recycling containers.
      4) Office waste receptacles.
      5) Plastic desktop accessories.

6) Plastic envelopes.
7) Plastic trash bags.
8) Printer ribbons.
9) Toner cartridges.

(4) Paper and Paper Products:

1) Commercial/industrial sanitary tissue products.
2) Miscellaneous papers.
3) Newsprint.
4) Paperboard and packaging products.
5) Printing and writing papers.

(5) Park and Recreation Products:

1) Park benches and picnic tables.
2) Plastic fencing.
3) Playground equipment.
4) Playground surfaces.
5) Running tracks.

(6) Transportation Products:

1) Channelizers.
2) Delineators.
3) Flexible delineators.
4) Parking stops.
5) Traffic barricades.
6) Traffic cones.

(7) Vehicular Products:

1) Engine coolants.
2) Rebuilt Vehicular Parts.
3) Re-refined lubricating oils.
4) Retread tires.

(8) Miscellaneous Products:

1) Awards and plaques.
2) Bike racks.
3) Blasting grit.
4) Industrial drums.
5) Manual-grade strapping.
6) Mats.
7) Pallets.
8) Signage.
9) Sorbents.

(9) For a complete listing of products and recommendations for recovered content, see http://www.epa.gov/cpg/products.htm

2. BIOBASED PRODUCTS: If the products listed below are obtained as part of this project, purchase the items with the highest biobased content possible and no less than the percent indicated for each product unless biobased products are not available: 1) competitively within a reasonable

time frame; 2) meeting reasonable performance standards as defined in the Standards or Project Specifications; or 3) at a reasonable price.

(1) Mobile Equipment Hydraulic Fluids (minimum 24% biobased content).

(2) Urethane Roof Coatings (minimum 62% biobased content).

(3) Water Tank Coatings (minimum 62% biobased content).

(4) Diesel Fuel Additives (minimum 93% biobased content).

(5) Penetrating Lubricants (minimum 71% biobased content).

(6) Bedding, Bed Linens, and Towels (minimum 18% biobased content).

(7) Adhesive and mastic removers 58%.

(8) Plastic insulating foam for residential and commercial construction 7%.

(9) Hand cleaners and sanitizers.

1) Hand cleaners—64 %
2) Hand sanitizers (including hand cleaners and sanitizers)—73 %

(10) Composite panels.

1) Plastic lumber composite panels—23 %
2) Acoustical composite panels—37 %
3) Interior panels—55 %
4) Structural interior panels—89 %
5) Structural wall panels—94 %

(11) Fluid-filled transformers.

1) Synthetic ester-based fluid-filled transformers—66 %
2) Vegetable oil-based fluid-filled transformers—95 %

(12) Disposable containers 72%.

(13) Fertilizers 71%.

(14) Sorbents 89%.

(15) Graffiti and grease removers 34%.

(16) 2-Cycle engine oils 34%.

(17) Lip care products 82%.

(18) Films (used in packaging, wrappings, linings, and other similar applications).

1) Semi-durable films—45%
2) Non-durable films—85%

(19) Stationary equipment hydraulic Fluids 44%.

(20) Disposable cutlery 48%.

(21) Glass cleaners 49%.

(22) Greases.

1) Food grade grease—42%
2) Multipurpose grease—72%
3) Rail track grease—30%
4) Truck grease—71%
5) Greases not elsewhere specified—75%

(23) Dust suppressants 85%.

(24) Carpets 7%.

(25) Carpet and upholstery cleaners.

1) General purpose cleaners—54%
2) Spot removers—7%

(26) Bathroom and spa cleaners 74%.

(27) Concrete and asphalt release fluids 87%.

(28) General purpose de-icers 93%.

(29) Firearm lubricants 49%.

(30) Floor strippers 78%.

(31) Laundry products.

1) Pretreatment/spot removers—46%
2) General purpose laundry products—34%

(32) Metalworking fluids.

1) Straight oils—66%
2) General purpose soluble, semisynthetic, and synthetic oils—57%
3) High performance soluble, semisynthetic, and synthetic oils—40%

(33) Wood and concrete sealers.

1) Penetrating liquids—79%
2) Membrane concrete sealers—11%

For additional information regarding biobased products, see **http://www.biobased.oce.usda.gov**

3. RECOVERED MATERIAL AND BIOBASED PRODUCTS REPORT: Provide the COR the following information for purchases of those items listed above:

(1) Quantity and cost of listed items with recovered or biobased material content and quantity and cost of listed items without recovered or biobased material content after completion and prior to submittal of final invoice.

(2) Written justification 7 work days prior to purchase of listed items if recovered material or biobased products are not available: 1) competitively within a reasonable time frame; 2) meeting reasonable performance standards as defined in the Standards or Project Specifications; or 3) at a reasonable price.

SECTION 13.8--DISPOSAL OF WASTE MATERIAL

1. GENERAL: Dispose or recycle waste material in accordance with applicable Federal, State and Local regulations and ordinances. In addition to the requirements of the Contract Clause ―Cleaning Up", remove all waste material from the construction site. No waste shall be left on Western property, right-of-way, or easement. Burning or burying of waste material is not permitted.

2. HAZARDOUS, UNIVERSAL, AND NON-HAZARDOUS WASTES: Manage hazardous, universal, and non-hazardous wastes in accordance with State and Federal regulations.

3. USED OIL: Used oil generated from the Contractor activities shall be managed in accordance with used oil regulations.

4. RECYCLABLE MATERIAL: Reduce wastes, including excess Western material, by recycling, reusing, or reprocessing. Examples of recycling, reusing, or reprocessing include reprocessing of solvents; recycling cardboard; and salvaging scrap metals.

5. REFRIGERANTS AND RECEIPTS: Refrigerants from air conditioners, water coolers, refrigerators, ice machines and vehicles shall be reclaimed with certified equipment operated by certified technicians if the item is to be disposed. Refrigerants shall be reclaimed and not vented to the atmosphere. A receipt from the reclaimer stating that the refrigerant was reclaimed, the amount and type of refrigerant, and the date shall be submitted to the COR after completion and prior to submittal of final invoice.

6. HALONS: Equipment containing halons that must be tested, maintained, serviced, repaired, or disposed must be handled according to EPA requirements and by technicians trained according to those requirements.

7. SULFUR HEXAFLOURIDE (SF_6): SF_6 shall be reclaimed and not vented to the atmosphere.

8. WASTE MATERIAL QUANTITY REPORT: Submit quantities of total project waste material disposal as listed below to the COR after completion and prior to submittal of final invoice.

   (1) Sanitary Wastes: Volume in cubic yards or weight in pounds.

   (2) Hazardous or Universal Wastes: Weight in pounds.

   (3) PCB Wastes: Weight in pounds.

   (4) Other regulated wastes (e.g., lead-based paint or asbestos): Weight in pounds (specify type of waste in report).

SECTION 13.9--CONTRACTOR'S LIABILITY FOR REGULATED MATERIAL INCIDENTS

1. GENERAL: The Contractor is solely liable for all expenses related to spills, mishandling, or incidents of regulated material attributable to his actions or the actions of his subcontractors. This includes all response, investigation, cleanup, disposal, permitting, reporting, and requirements from applicable environmental regulation agencies.

2. SUPERVISION: The actions of the Contractor employees, agents, and subcontractors shall be properly managed at all times on Western property or while transporting Western's (or previously owned by Western) regulated material and equipment.

SECTION 13.10--POLLUTANT SPILL PREVENTION, NOTIFICATION, AND CLEANUP

1. GENERAL: Provide measures to prevent spills of pollutants and respond appropriately if a spill occurs. A pollutant includes any hazardous or non-hazardous substance that when spilled, will contaminate soil, surface water, or ground water. This includes any solvent, fuel, oil, paint, pesticide, engine coolants, and similar substances.

2. SPILL PREVENTION NOTIFICATION AND CLEANUP PLAN (Plan): Provide the Plan to the COR for approval 14 days prior to start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Include the following in the Plan:

   (1) Spill Prevention measures. Describe the work practices or precautions that will be used at the job site to prevent spills. These may include engineered or manufactured techniques such as installation of berms around fuel and oil tanks; Storage of fuels, paints, and other substances in spill proof containers; and management techniques such as requiring workers to handle material in certain ways.

   (2) Notification. Most States and the Environmental Protection Agency require by regulation, that anyone who spills certain types of pollutants in certain quantities notify them of the spill within a specific time period. Some of these agencies require written follow up reports and cleanup reports. Include in the Plan, the types of spills for which notification would be made, the agencies notified, the information the agency requires during the notification, and the telephone numbers for notification.

   (3) Employee Awareness Training. Describe employee awareness training procedures that will be implemented to ensure personnel are knowledgeable about the contents of the Plan and the need for notification.

   (4) Commitment of Manpower, Equipment and Material. Identify the arrangements made to respond to spills, including the commitment of manpower, equipment and material.

   (5) If applicable, address all requirements of 40CFR112 pertaining to Spill Prevention, Control and Countermeasures Plans.

3. TANKER OIL SPILL PREVENTION AND RESPONSE PLAN: Provide a Tanker Oil Spill Prevention and Response Plan as required by the Department of Transportation if oil tankers with volume of 3,500 gallons or more are used as part of the project. Submit the Tanker Oil Spill Prevention and Response Plan to the COR for approval 14 days prior to start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations.

SECTION 13.11--PESTICIDES

1. GENERAL: The term ―pesticide" includes herbicides, insecticides, rodenticides and fungicides. Pesticides shall only be used in accordance with their labeling and applied by appropriately certified applicators.

2. ENVIRONMENTAL PROTECTION AGENCY REGISTRATION: Use EPA registered pesticides that are approved for the intended use.

3. PESTICIDE USE PLAN: The plan shall contain: 1) a description of the pesticide to be used, 2) where it is to be applied, 3) the application rate, 4) a copy of the label, and 5) a copy of required applicator certifications. Submit two copies of the pesticide use plan to the COR for approval 14 days prior to the date of intended application. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. Within seven days after application, submit a written report, including the pesticide applicators report, in accordance with Standard 2 – Sitework, Section 2.1.1.5, ―Soil-Applied Herbicide".

SECTION 13.12--TREATED WOOD POLES AND MEMBERS RECYCLING OR DISPOSAL

Whenever practicable, treated wood poles and members removed during the project shall be recycled or transferred to the public for some uses. Treated wood poles and members transferred to a recycler, landfill, or the public shall be accompanied by a written consumer information sheet on treated wood as provided by Western. Obtain a receipt form, part of the consumer information sheet, from the recipient indicating that they have received, read, and understand the consumer information sheet. Treated wood products transferred to right-of-way landowners shall be moved off the right-of-way. Treated wood product scrap or poles and members that cannot be donated or reused shall be properly disposed in a landfill that accepts treated wood and has signed Western's consumer information sheet receipt. Submit treated wood pole and members consumer receipt forms to the COR after completion and prior to submittal of final invoice.

SECTION 13.13--PREVENTION OF AIR POLLUTION

1. GENERAL: Ensure that construction activities and the operation of equipment are undertaken to reduce the emission of air pollutants. Submit a copy of permits, if required, from Federal, State, or local agencies to the COR 14 days prior to the start of work.

2. MACHINERY AIR EMISSIONS: The Contractor and subcontractor machinery shall have, and shall use the air emissions control devices required by Federal, State or Local Regulation or ordinance.

3. DUST ABATEMENT: Dust shall be controlled. Oil shall not be used as a dust suppressant. Dust suppressants shall be approved by the COR prior to use.

SECTION 13.14--HANDLING AND MANAGEMENT OF ASBESTOS CONTAINING MATERIAL

1. GENERAL: Obtain the appropriate Federal, State, Tribal or local licenses or certifications prior to disturbing any regulated asbestos-containing material. If a building or portion of a building will be demolished or renovated, obtain an Asbestos Notice of and Permit for Demolition and Renovation from the State or Tribal Department of Environmental Quality, Division of Air Quality (or equivalent). The building(s) shall be inspected by a State-Certified or Tribal accepted Asbestos Building Inspector and the inspector shall certify the presence and condition of asbestos on site as directed on the State or Tribal Demolition and Renovation Notice/Permit. The inspections shall be performed and notifications shall be submitted whether asbestos is present or not. Submit a copy of licenses, certifications, Demolition and Renovation Notifications and Permits for asbestos work to the COR 14 days prior to work. Ensure: 1) worker and public safety requirements are fully implemented and 2) proper handling, transportation, and disposal of asbestos containing material.

2. TRANSPORTATION OF ASBESTOS WASTE: Comply with Department of Transportation, Environmental Protection Agency, and State and Local requirements when transporting asbestos wastes.

3. CERTIFICATES OF DISPOSAL AND RECEIPTS: Obtain certificates of disposal for waste if the waste is a hazardous waste or receipts if the waste is a non-hazardous waste. Submit copies to the COR after completion and prior to submittal of final invoice.

SECTION 13.15--MATERIAL WITH LEAD-BASED PAINT

1. GENERAL: Comply with all applicable Federal, State and local regulations concerning work with lead-based paint, disposal of material painted with lead-based paint, and management of these material. OSHA and General Industry Standards apply to worker safety and right-to-know issues. Federal EPA and State agencies regulate waste disposal and air quality issues.

2. TRANSFER OF PROPERTY: If lead-based paint containing equipment or material is to be given away or sold for reuse, scrap, or reclaiming, a written notice shall be provided to the recipient of the material stating that the material contains lead-based paint and the Hazardous Waste regulations may apply to the waste or the paint in some circumstances. The new owner must also be notified that they may be responsible for compliance with OSHA requirements if the material is to be cut, sanded, abraded, or stripped of paint. Submit a copy of lead paint notices to the COR upon completion and prior to submittal of final invoice.

3. CERTIFICATES OF DISPOSAL AND RECEIPTS: Obtain certificate of disposals for waste if the waste is a hazardous waste or receipts if the waste is a non-hazardous waste. Submit copies to the COR after completion and prior to submittal of final invoice.

SECTION 13.16--PREVENTION OF WATER POLLUTION

1. GENERAL: Ensure that surface and ground water is protected from pollution caused by construction activities and comply with applicable regulations and requirements. Ensure that streams, waterways and other courses are not obstructed or impaired unless the appropriate Federal, State or local permits have been obtained.

2. PERMITS: Ensure that:

   (1) A National Pollutant Discharge Elimination System (NPDES) permit is obtained from the US Environmental Protection Agency or State as appropriate if the disturbed construction area equals 1 acre or more. Disturbed areas include staging, parking, fueling, stockpiling, and any other construction related activities. Refer to www.epa.gov/npdes/stormwater for directions and forms.

   (2) A dewatering permit is obtained from the appropriate agency if required for construction dewatering activities.

   (3) Copies of permits and plans, approved by the appropriate regulating agencies, are submitted to the COR 14 days prior to start of work.

3. EXCAVATED MATERIAL AND OTHER CONTAMINANT SOURCES: Control runoff from excavated areas and piles of excavated material, construction material or wastes (to include truck washing and concrete wastes), and chemical products such as oil, grease, solvents, fuels, pesticides, and pole treatment compounds. Excavated material or other construction material shall not be stockpiled or deposited near or on streambanks, lake shorelines, ditches, irrigation canals, or other areas where run-off could impact the environment.

4. MANAGEMENT OF WASTE CONCRETE OR WASHING OF CONCRETE TRUCKS: Do not permit the washing of concrete trucks or disposal of excess concrete in any ditch, canal, stream, or other surface water. Concrete wastes shall be disposed in accordance with all Federal, State, and local regulations. Concrete wastes shall not be disposed on any Western property, right-of-way, or easement; nor on any streets, roads, or property without the owner's consent.

5. STREAM CROSSINGS: Crossing of any stream or other waterway shall be done in compliance with Federal, State, and local regulations. Crossing of some waterways may be prohibited by landowners, State or Federal agencies or require permits.

SECTION 13.17--TESTING, DRAINING, REMOVAL, AND DISPOSAL OF OIL-FILLED ELECTRICAL EQUIPMENT

1. SAMPLING AND TESTING OF INSULATING OIL FOR PCB CONTENT: Sample and analyze the oil of electrical equipment (which includes storage tanks) for PCB's. Use analytical methods approved by EPA and applicable State regulations. Decontaminate sampling equipment according to documented good laboratory practices (these can be contractor developed or EPA standards). Use only laboratories approved by Western. The COR will furnish a list of approved laboratories.

2. PCB TEST REPORT: Provide PCB test reports that contain the information below for disposing of oil-filled electrical equipment. Submit the PCB test report prior to draining, removal, or disposal of oil or oil-filled equipment that is designated for disposal.

   (1) Name and address of the laboratory.

   (2) Description of the electrical equipment (e.g. transformer, breaker).

   (3) Serial number for the electrical equipment.

   (4) Date sampled.

   (5) Date tested.

   (6) PCB contents in parts per million (ppm).

   (7) Unique identification number of container into which the oil was drained (i.e., number of drum, tank, tanker, etc.)

3. OIL CONTAINING PCB: Comply with the Federal regulations pertaining to PCBs found at Title 40, Part 761 of the U.S. Code of Federal Regulations (40 CFR 761).

4. REMOVAL AND DISPOSAL OF INSULATING OIL AND OIL-FILLED ELECTRICAL EQUIPMENT: Once the PCB content of the oil has been identified from laboratory results, the oil shall be transported and disposed, recycled, or reprocessed according to 40 CFR 761 (if applicable), Resource Conservation and Recovery Act (RCRA) ~~"u~~sed oil", and other applicable regulations. Used oil may be transported only by EPA-registered used oil transporters. The oil must be stored in containers that are labeled ~~"U~~sed Oil." Use only U.S. transporters and disposal sites approved by Western.

5. OIL AND OIL-FILLED ELECTRICAL EQUIPMENT RECEIPT: Obtain and submit a receipt for oil and oil-filled equipment transported and disposed, recycled, or reprocessed to the COR upon completion and prior to submittal of final invoice.

SECTION 13.18--REMOVAL OF OIL-CONTAMINATED MATERIAL

1. GENERAL: Removing oil-contaminated material includes excavating, stockpiling, testing, transporting, cleaning, and disposing of these material. Personnel working with PCBs shall be trained in accordance with OSHA requirements. Submit employee training documentation records to the COR 14 days prior to the start of work.

2. CLEANUP WORK MANAGEMENT PLAN: Provide a Cleanup Work Management Plan that has been approved by applicable Federal, State, or Local environmental regulation agencies. Submit the plan to the COR for approval 14 days prior to the start of work. Approval of the plan is for the purpose of determining compliance with the specifications only and shall not relieve the Contractor of the responsibility for compliance with all Federal, State, and Local regulations. The plan shall address on-site excavation of contaminated soil and debris and include the following:

   (1) Identification of contaminants and areas to be excavated.
   (2) Method of excavation.
   (3) Level of personnel/subcontractor training.
   (4) Safety and health provisions.
   (5) Sampling requirements including quality control, laboratory to be used.
   (6) Management of excavated soils and debris.
   (7) Disposal methods, including transportation to disposal.

3. EXCAVATION AND CLEANUP: Comply with the requirements of Title 40, Part 761 of the U.S. Code of Federal Regulations (40 CFR 761).

4. TEMPORARY STOCKPILING: Excavated material, temporarily stockpiled on site, shall be stored on heavy plastic and covered to prevent wind and rain erosion at a location designated by the COR.

5. SAMPLING AND TESTING: Sample contaminated debris and areas of excavation to ensure that contamination is removed. Use personnel with experience in sampling and, in particular, with experience in PCB cleanup if PCBs are involved. Use analytical methods approved by EPA and applicable State regulations.

6. TRANSPORTION AND DISPOSAL OF CONTAMINATED MATERIAL: The Contractor shall be responsible and liable for the proper loading, transportation, and disposal of contaminated material according to Federal, State, and local requirements. Use only U.S. transporters and disposal sites approved by Western.

7. POST CLEANUP REPORT: Provide a Post-Cleanup Report that describes the cleanup of contaminated soils and debris. Submit the report to the COR upon completion and prior to submittal of final invoice. The report shall contain the following information:

   (1) Site map showing the areas cleaned.

   (2) Description of the operations involved in excavating, storing, sampling, and testing, and disposal.

   (3) - Sampling and analysis results including:

      1) Name and address of the laboratory;
      2) sample locations;
      3) sample dates;
      4) analysis dates;
      5) contents of contaminant (e.g., PCB or total petroleum hydrocarbons) in parts per million (ppm).

(4) Certification by the Contractor that the cleanup requirements were met.

(5) Copies of any manifests, bills of lading, and disposal certificates.

(6) Copies of correspondence with regulatory agencies that support completion of the cleanup.

SECTION 13.19--CONSERVATION OF NATURAL RESOURCES

1. GENERAL: Federal law prohibits the taking of endangered, threatened, proposed or candidate wildlife and plants, and destruction or adverse modification of designated Critical Habitat. Federal law also prohibits the taking of birds protected by the Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. ―Take" means to pursue, hunt, shoot, wound, kill, trap, capture or collect a protected animal or any part thereof, or attempt to do any of those things. The Contractor will take reasonable precaution to avoid harming other wildlife species. Contractor must always stay within Western's right-of-way and/or easement.

2. KNOWN OCCURRENCE OF PROTECTED SPECIES OR HABITAT: Following issuance of the notice to proceed, and prior to the start of construction, Western will provide training to all contractor and subcontractor personnel involved in the construction activity. Untrained personnel shall not be allowed in the construction area. Western will provide two sets of plan and profile drawings showing sensitive areas located on or immediately adjacent to the transmission line right-of-way and/or facility. These areas shall be considered avoidance areas. Prior to any construction activity, the avoidance areas shall be marked on the ground in a manner approved by the COR. If access is absolutely necessary, the contractor shall first obtain permission from the COR, noting that a Western and/or other government or tribal agency biologist may be required to accompany personnel and equipment. Ground markings shall be maintained through the duration of the contract. Western will remove the markings during or following final inspection of the project.

3. UNKNOWN OCCURRENCE OF PROTECTED SPECIES OR HABITAT: If evidence of a protected species is found in the project area, the contractor shall immediately notify the COR and provide the location and nature of the findings. The contractor shall stop all activity in the vicinity of the protected species or habitat and not proceed until directed to do so by the COR.

Appendix E: Visual Simulations and Contrast Rating Forms

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 2, 2009
District	Las Vegas Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location Township 23S Range 63E Section 2	5. Location Sketch
2. Key Observation Point **KOP 1 – Railroad Pass Hotel/Casino**		
3. VRM Class **NA**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Gently rolling to flat valleys with angular and jagged mountainous features	Pixilated and amorphous/patchy	Vertical, horizontal, angular, cylindrical, and geometric
LINE	Strong horizon line with jagged terrain and various silhouettes	Simple and irregular	Straight, horizontal, angular, geometric, and vertical
COLOR	Various grays, tans, browns, and reds with a slight bluish hue due to hazy atmospheric conditions in the distance	Forest, true, and olive greens with various hues	White, tan, metallic, reds, yellows, and browns
TEX-TURE	Rough to smooth	Medium, scattered, and clumped	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Gently rolling valley with anular, jagged mountains	Pixilated and amorphous/patchy	Vertical and oscillating (revolving/gyrating)
LINE	Strong jagged horizo0n and silhouette lines	Simple and irregular	Vertical and angular
COLOR	Various tans, grays, and browns	Forest, true, and olive greens with various hues	White
TEX-TURE	Smooth	Medium, scattered, and clumped	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				3. Additional mitigating measures recommended? ☐ Yes ☒ No (Explain on reverse side)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form				X				X			X		Evaluator's Names Date
	Line				X				X				X	Robert Evans June 2, 2009
	Color				X				X			X		
	Texture			X					X				X	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 3, 2009
District	Las Vegas Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location Township _____ Range _____ Section _____	5. Location Sketch
2. Key Observation Point **KOP2 – U.S. 95 looking south toward Searchlight, NV**		
3. VRM Class **NA**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Broad rolling alluvial valley with rugged background terrain	Moderately uniform with patches of taller more dominant vegetation	Vertical and horizontal
LINE	Undulating with a strong horizon line	Undulating with edge created by man-made structures (road)	Vertical with divergent bands/lines
COLOR	Browns, tans, and grays	Various hues of green with some tan and brown	Metallic and various grays
TEX-TURE	Medium to smooth	Medium to smooth	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Possible geometric patterns and simple indistinct forms created by cut and fill	Possible geometric shapes and simple indistinct forms created by clearings for roads and structure pads (construction activities)	Vertical, angular, and oscillating circular elements (revolving/gyrating)
LINE	Undulating with edges and lines created by possible visible cut and fill	Lines and edges created by clearing vegetation for construction activities	Vertical, angular, and circular oscillating blades/line features
COLOR	Tans and browns	Various light to dark greens	White
TEX-TURE	Smooth	Patchy	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side) 3. Additional mitigating measures recommended? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form			X			X					X		Evaluator's Names Date
	Line		X				X					X		Robert Evans June 3, 2009
	Color			X				X			X			
	Texture				X		X						X	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 2, 2009
District	Kingman Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location Township 28N Range 22W Section 1	5. Location Sketch
2. Key Observation Point **KOP 3 – U.S. 93 past Hoover Dam**		
3. VRM Class **NA**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Pyramidal and angular, rugged mountains and flat plateaus with sweeping sides often exhibiting dendritic patterns. Dominant mesa in foreground creates strong silhouette.	Pixilated, sparse and dotted	_____
LINE	Angular and hard with jagged terrain and silhouettes. Dominant silhouette (mesa) in foreground.	Simple and undulating	_____
COLOR	Various grays, tans, browns, and a blue or deep aqua color for the water	True and olive greens which are indistinct in the background	_____
TEX-TURE	Rough with numerous silhouettes	Dotted, medium	_____

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Sweeping smooth water feature with pyramidal and angular, rugged mountains and flat plateaus with sweeping sides often exhibiting dendritic patterns	Pixilated, sparse and dotted	Vertical, angular, and oscillating (revolving/gyrating)
LINE	Angular and hard with jagged terrain and silhouettes	Simple and undulating	Vertical and angular
COLOR	Various tans, grays, and browns	Forest, true, and olive greens with various hues	White
TEX-TURE	Rough with numerous silhouettes	Medium, dotted	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				3. Additional mitigating measures recommended? ☐ Yes ☒ No (Explain on reverse side)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form				X				X			X		Evaluator's Names Date
	Line				X				X			X		Robert Evans June 2, 2009
	Color			X					X			X		
	Texture				X				X			X		

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 2, 2009
District	Kingman Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location Township 24N Range 18W Section 25	5. Location Sketch
2. Key Observation Point **KOP 4 – Windy Point Campground**		
3. VRM Class **NA-to be provided**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Jagged with pyramidal and angular, rugged mountains in the foreground and background bisected by relatively flat valley floors (textbook basin and range)	Patchy and pixilated with simple forms created by vegetation along slopes in the foreground to middleground	Angular and geometric in the middleground
LINE	Angular with sharp silhouettes created by the peaks and mountain ranges	Simple forms and digitate edges created by the vegetation on the slopes in the middleground and foreground	Curvilinear features (roads) and edges created by angular structures
COLOR	Various grays, tans, browns, and red hues	Various greens (dark to light tones)-foreest, true, olive as well as orange and yellow (flowers)	Metallic, white, and tan
TEX-TURE	Rough in foreground/middleground to amorphous and smooth in the background	Rough in the immediate foreground, with medium in foreground and smooth in middleground/background	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Jagged silhouettes created by distant mountains	Simple, smooth patterns (random)	Vertical, angular, and oscillating (revolving/gyrating)
LINE	Horizon and silhouette lines in the middle to background	Simple and indistinct patterns	Vertical and angular
COLOR	Various tans, grays, red hues, and browns (with a bluish hue in the background)	Various light to dark greens	White
TEX-TURE	Rough to smooth	Rough to smooth	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side) 3. Additional mitigating measures recommended? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form				X				X				X	Evaluator's Names Date
	Line				X				X			X		Robert Evans June 2, 2009
	Color			X					X			X		
	Texture				X				X				X	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 2, 2009
District	Las Vegas Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location Township 31S Range 64E Section 32	5. Location Sketch
2. Key Observation Point **KOP 5 – Palm Community**		
3. VRM Class **NA**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Flat to rolling foreground valley views with dramatic and rugged terrain in the background	Uniform and undulating	Vertical and geometric
LINE	Undulating to rugged silhouettes in the background	Butt edges created between uniform vegetation and the dramatic background terrain	Vertical, angular, and geometric
COLOR	Grays, tans, browns, and a bluish hue created by atmospheric conditions	Monochromatic tans and olive greens	Metallic
TEX-TURE	Medium to smooth in the foreground and middleground to course in the background	Course to smooth in the foreground and middleground to fine in the background	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Possible geometric shapes created by cut and fill for roads	Possible geometric shapes created by clearings for roads and structure pads	Vertical, angular, and oscillating (revolving/gyrating)
LINE	Edges created by possible visible cut and fill for roads	Possible edges created by clearing vegetation for structure pads	Vertical and angular
COLOR	Various tans and browns	Various light to dark olive greens	White
TEX-TURE	Smooth	Patchy to smooth	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				3. Additional mitigating measures recommended? ☒ Yes ☐ No (Explain on reverse side)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form			X				X				X		Evaluator's Names Date
	Line			X					X				X	Robert Evans June 2, 2009
	Color			X					X		X			
	Texture			X				X					X	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 3, 2009
District	Kingman Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location Township 24N Range 22W Section 29	5. Location Sketch
2. Key Observation Point **KOP6 – View from Lake Mojave**		
3. VRM Class **NA – NPS**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rough to smooth water feature in the foreground with pyramidal angular land features on the shoreline and rugged mountain silhouettes in the background	Patchy and sparse	
LINE	Angular with a butt edge created where water feature and land meet as well as a strong horizon line	Simple and undulating with vegetation edges along the water where vegetation is more dense	
COLOR	Various grays, tans, browns, with a reddish hue and a blue bluish hue to the distant mountains with a blue or light aqua color for the water	Dark green	
TEX-TURE	Rough to smooth	Dotted, medium to smooth	

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rough to smooth water feature in the foreground with pyramidal angular land features on the shoreline and rugged mountain silhouettes in the background	Patchy and sparse	Vertical, angular, and oscillating (revolving/gyrating)
LINE	Angular with a butt edge created where water feature and land meet as well as a strong horizon line (possibly interrupted by revolving wind towers)	Simple and undulating with vegetation edges along the water where vegetation is more dense	Vertical and angular with oscillating or revolving circles
COLOR	Various grays, tans, browns, with a reddish hue and a blue bluish hue to the distant mountains with a blue or light aqua color for the water	Dark green	White
TEX-TURE	Rough to smooth	Medium to smooth, dotted	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				3. Additional mitigating measures recommended? ☐ Yes ☒ No (Explain on reverse side)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form				X				X		X			Evaluator's Names Date
	Line				X				X		X			Robert Evans June 3, 2009
	Color				X				X		X			
	Texture				X				X			X		

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 6, 2009
District	Las Vegas Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location Township _____ Range _____ Section 2	5. Location Sketch
2. Key Observation Point **KOP 7 – Searchlight Nugget Casino**		
3. VRM Class **NA**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Gently rolling with some prominent elevated features	Patchy with both vertical and broad bushy elements	Vertical, horizontal, angular, cylindrical, and geometric
LINE	Horizontal with edges created by man-made structures, some undulating elements in the background	Simple and irregular/vertical	Straight, horizontal, angular, divergent bands, geometric, and vertical
COLOR	Various grays, tans, browns, and red hues	Forest, true, and various olive greens with various hues	White, tan, metallic, reds, yellows, and browns
TEX-TURE	Medium to smooth	Rough, scattered, and clumped	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Gently rolling with some prominent elevated features	Patchy with both vertical and broad bushy elements	Vertical and oscillating (revolving/gyrating)
LINE	Horizontal with edges created by man-made structures, some undulating elements in the background	Simple and irregular	Vertical and angular
COLOR	Various tans, grays, and browns	Forest, true, and olive greens with various hues	White
TEX-TURE	Medium to smooth	Rough, scattered, and clumped	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				3. Additional mitigating measures recommended? ☐ Yes ☒ No (Explain on reverse side)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form				X				X			X		Evaluator's Names Date
	Line				X				X				X	Robert Evans June 2, 2009
	Color				X				X			X		
	Texture			X					X				X	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 2, 2009
District	Las Vegas Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location Township 28S Range 65E Section 35	5. Location Sketch
2. Key Observation Point **KOP 8 – Development in Searchlight**		
3. VRM Class **NA**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Jagged with pyramidal and angular, rugged mountains and silhouettes in the middleground and background rolling in the foreground	Patchy and sparse	Angular, vertical, and horizontal
LINE	Angular and undulating with sharp silhouettes created by the peaks and mountain ranges	Patchy, simple forms	Divergent bands (roads) and horizontal
COLOR	Various grays, tans, browns, and red hues	Light hued greens	Metallic, various grays, green, red brick, brown (wood), and tan
TEX-TURE	Rough in foreground/middleground to amorphous and smooth in the background	Patchy (due to a lack of)	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Jagged with pyramidal and angular, rugged mountains and silhouettes in the middleground and background rolling in the foreground	Patchy and sparse	Vertical, angular, and oscillating (revolving/gyrating)
LINE	Angular and undulating with sharp silhouettes created by the peaks and mountain ranges	Patchy, simple forms	Vertical and angular
COLO R	Various grays, tans, browns, and red hues	Light hued greens	White
TEX-TURE	Rough in foreground/middleground to amorphous and smooth in the background	Patchy (due to a lack of)	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				3. Additional mitigating measures recommended? ☒ Yes ☐ No (Explain on reverse side)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form				X				X		X			Evaluator's Names Date
	Line				X				X			X		Robert Evans June 2, 2009
	Color			X					X		X			
	Texture				X				X				X	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 3, 2009
District	Southern Nevada
Resource Area	Las Vegas Field Office
Activity (program)	Visual Resources

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location	5. Location Sketch See KOP Map
2. Key Observation Point **KOP 9 – View from Cottonwood Cove**	Township 24N Range 22W Section 29	
3. VRM Class **NPS (No VRM)**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Water – flat, continuous – land – bold, prominent, rolling hills, sloping, flowing from hills to water	Low, pixilated, patchy	Horizontal, boxy, geometric
LINE	Undulating, butt edge between water and land	Digitate edges on hill crests	Vertical, horizontal, sweeping divergent bands
COLOR	Water – green, aqua Tans, browns, reddish hue	Dark green with olive	White, blue, red, metallic, brown, tan
TEX-TURE	Medium to smooth	Sparse, some stipple with dense patches close to development	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Indiscernible change	Indiscernible change	Vertical, angular, and oscillating (revolving/gyrating)
LINE	Indiscernible change	Indiscernible change	Vertical, angular, and circular line features
COLOR	Indiscernible change	Indiscernible change	White (or gray)
TEX-TURE	Indiscernible change	Indiscernible change	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☒ Yes ☐ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				3. Additional mitigating measures recommended? ☐ Yes ☒ No (Explain on reverse side)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form				X				X			X		Evaluator's Names Date
	Line				X				X			X		Richard Stuhan June 3, 2009
	Color				X				X				X	
	Texture				X				X				X	

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 8-31-11

District/ Field Office: Las Vegas Field Office

Resource Area:

Activity (program): Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name Searchlight Wind Energy Project	4. Location Township_____	5. Location Sketch
2. Key Observation Point KOP 10 - View of Travelers Exiting the Lake Mead NRA and Lake Mohave on Cottonwood Cove Road	Range_____	
3. VRM Class	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Broad rolling alluvial valley with rugged background terrain	Moderately uniform with patches of taller more dominant vegetation	Horizontal (road) Vertical/boxy (entrance station)
LINE	Undulating with a strong horizontal line	Undulating with edge created by manmade structures (road)	Horizontal and vertical
COLOR	Browns, tans and grays	Various hues of green with some tan and brown	Metallic and various grays
TEX-TURE	Medium to smooth	Medium to smooth	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Possible geometric patterns and simple indistinct forms created by cut and fill	Possible geometric shapes and simple indistinct forms created by clearings for roads and structure pads (construction activities)	Vertical, angular, and circular oscillating blades/line features
LINE	Undulating with edges and lines created by possible visible cut and fill	Lines and edges created by clearing vegetation for construction activities	Vertical, angular, and circular oscillating blades/line features
COLOR	Tans and browns	Various light to dark greens	White
TEX-TURE	Smooth	Patchy	Smooth

SECTION D. CONTRAST RATING __SHORT TERM __LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			X			X					X	
	LINE		X				X					X	
	COLOR			X				X			X		
	TEXTURE				X		X					X	

2. Does project design meet visual resource management objectives?
☒Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
☒Yes ___No (Explain on reverses side)

Evaluator's Names Date
Anne DuBarton 8-31-11

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 8-31-11

District/ Field Office: Las Vegas Field Office

Resource Area:

Activity (program): Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name Searchlight Wind Energy Project	4. Location Township_____	5. Location Sketch
2. Key Observation Point KOP 11 – Comm Towers Near Spirit Mountain	Range_____	
3. VRM Class	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Jagged with pyramidal and angular, rugged mountains in the foreground and background bisected by a relatively flat valley floor	Patchy and pixilated with simple forms created by vegetation along slopes in the foreground to middleground	Angular and geometric in the foreground and middleground
LINE	Angular with sharp silhouettes created by the peaks and mountain ranges	Simple forms and digitate edges created by vegetation on the slopes in the foreground and middleground	Curvilinear to linear features (roads) and edges created by angular structures
COLOR	Various grays, tans, browns, and red hues	Various greens (dark to light tones)- forest, true, olive as well as orange and yellow (flowers)	Metallic, white and tan
TEX-TURE	Rough in foreground/middleground to amorphous and smooth in background	Rough to medium in the immediate foreground, and smooth in middleground/background	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Jagged silhouettes created by distant mountains	Simple, smooth patterns (random)	Vertical, angular, and oscillating (revolving/gyrating)
LINE	Horizon and silhouette lines in the middle to background	Simple and indistinct patterns	Vertical and angular
COLOR	Various tans, grays, red hues, and browns (with a bluish hue in the background)	Various light to dark greens	White
TEX-TURE	Rough to smooth	Rough to smooth	Smooth

SECTION D. CONTRAST RATING __SHORT TERM ☒ LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X				X
	LINE				X				X			X	
	COLOR			X					X			X	
	TEXTURE				X				X				X

2. Does project design meet visual resource management objectives?
☒Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
☒Yes ___No (Explain on reverses side)

Evaluator's Names	Date
Anne DuBarton	8-31-11

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 9-1-11

District/ Field Office: Las Vegas Field Office

Resource Area:

Activity (program): Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name Searchlight Wind Energy Project	4. Location Township_____	5. Location Sketch
2. Key Observation Point KOP 13 – Outside Searchlight Historic Hospital	Range_____	
3. VRM Class	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Gently rolling with some prominent elevated features	Patchy with both vertical and broad bushy elements.	Vertical, horizontal, angular, cylindrical, and geometric
LINE	Horizontal with edges created by man-made structures	Undulating with edge created by manmade structures (road/ buildings)	Straight, horizontal, angular, divergent bands, geometric, and vertical
COLOR	Various grays, tans, browns and red hues	Various hues of green with some tan and brown	Metallic and various paint colors on buildings
TEX-TURE	Medium to smooth	Rough, scattered and clumped	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Gently rolling with some prominent elevated features	Patchy with both vertical and broad bushy elements	Vertical, angular, and circular oscillating blades/line features
LINE	Horizontal with edges created by man-made structures	Simple and irregular	Vertical, angular, and circular oscillating blades/line features
COLOR	Tans, grays and browns	Various light to dark greens	White
TEX-TURE	Medium to Smooth	Rough, scattered, and clumped	Smooth

SECTION D. CONTRAST RATING __SHORT TERM __LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM				X				X			X	
	LINE				X				X				X
	COLOR				X							X	
	TEXTURE			X					X				X

2. Does project design meet visual resource management objectives?
☒Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
___ Yes ___No (Explain on reverses side)

Evaluator's Names — Date
Anne DuBarton — 8-31-11

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 8-31-11

District/ Field Office: Las Vegas Field Office

Resource Area:

Activity (program): Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name Searchlight Wind Energy Project	4. Location Township_____	5. Location Sketch
2. Key Observation Point KOP 14 - View from Cottonwood Cave Looking West	Range_____	
3. VRM Class	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Broad rolling alluvial valley with rugged background terrain	Moderately uniform with patches of taller more dominant vegetation	Horizontal (road) Vertical (flagpole/lightpoles)
LINE	Undulating with a strong horizontal line	Undulating with edge created by manmade structures (road/poles)	Horizontal and vertical
COLOR	Browns, tans and grays	Various hues of green with some tan and brown	Metallic and various grays
TEX-TURE	Medium to smooth	Medium to smooth	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Possible geometric patterns and simple indistinct forms created by cut and fill	Possible geometric shapes and simple indistinct forms created by clearings for roads and structure pads (construction activities)	Vertical, angular, and circular oscillating blades/line features
LINE	Undulating with edges and lines created by possible visible cut and fill	Lines and edges created by clearing vegetation for construction activities	Vertical, angular, and circular oscillating blades/line features
COLOR	Tans and browns	Various light to dark greens	White
TEX-TURE	Smooth	Patchy	Smooth

SECTION D. CONTRAST RATING __SHORT TERM __LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			X			X					X	
	LINE		X				X					X	
	COLOR			X				X			X		
	TEXTURE				X		X					X	

2. Does project design meet visual resource management objectives?
☒Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
☒Yes ___No (Explain on reverses side)

Evaluator's Names — Date
Anne DuBarton — 8-31-11

SECTION D. (Continued)

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 9-1-11

District/ Field Office: Las Vegas Field Office

Resource Area:

Activity (program): Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name	4. Location	5. Location Sketch
Searchlight Wind Energy Project	Township_____	
2. Key Observation Point KOP 15 - View from Cottonwood Cave Looking South	Range_____	
3. VRM Class	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Broad rolling alluvial valley with rugged background terrain	Moderately uniform with patches of taller more dominant vegetation	Horizontal (road) Vertical (power lines)
LINE	Undulating with a strong horizontal line	Undulating with edge created by manmade structures (road/poles)	Horizontal and vertical
COLOR	Browns, tans and grays	Various hues of green with some tan and brown	Metallic, brown, and various grays
TEX-TURE	Medium to smooth	Medium to smooth	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Possible geometric patterns and simple indistinct forms created by cut and fill	Possible geometric shapes and simple indistinct forms created by clearings for roads and structure pads (construction activities)	Vertical, angular, and circular oscillating blades/line features
LINE	Undulating with edges and lines created by possible visible cut and fill	Lines and edges created by clearing vegetation for construction activities	Vertical, angular, and circular oscillating blades/line features
COLOR	Tans and browns	Various light to dark greens	White
TEX-TURE	Smooth	Patchy	Smooth

SECTION D. CONTRAST RATING __SHORT TERM __LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			X			X				x		
	LINE		X				X				X		
	COLOR			X				X			X		
	TEXTURE				X		X				x		

2. Does project design meet visual resource management objectives?
☒Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
☒Yes ___No (Explain on reverses side)

Evaluator's Names — Date
Anne DuBarton — 9-31-11

Form 8400-4

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
VISUAL CONTRAST RATING WORKSHEET

Date: 9-1-11

District/ Field Office: Las Vegas Field Office

Resource Area:

Activity (program): Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name Searchlight Wind Energy Project	4. Location Township_____	5. Location Sketch
2. Key Observation Point KOP 16 - View from Cottonwood Cave Looking North	Range_____	
3. VRM Class	Section_____	

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Rolling hills in foreground with rugged background terrain	Moderately uniform with patches of taller more dominant vegetation	None
LINE	Undulating with a strong horizontal line	Undulating with edge created by manmade structures (road/poles)	None
COLOR	Browns, tans and grays	Various hues of green with some tan and brown	None
TEX-TURE	Medium to smooth	Medium to smooth	None

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Possible geometric patterns and simple indistinct forms created by cut and fill	Possible geometric shapes and simple indistinct forms created by clearings for roads and structure pads (construction activities)	Vertical, angular, and circular oscillating blades/line features
LINE	Undulating with edges and lines created by possible visible cut and fill	Lines and edges created by clearing vegetation for construction activities	Vertical, angular, and circular oscillating blades/line features
COLOR	Tans and browns	Various light to dark greens	White
TEX-TURE	Smooth	Patchy	Smooth

SECTION D. CONTRAST RATING __SHORT TERM __LONG TERM

1. DEGREE OF CONTRAST		FEATURES											
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)			
		STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE	STRONG	MODERATE	WEAK	NONE
ELEMENTS	FORM			X			X					X	
	LINE		X				X					X	
	COLOR			X				X			X		
	TEXTURE				X		X					X	

2. Does project design meet visual resource management objectives?
☒Yes ___No
(Explain on reverses side)

3. Additional mitigating measures recommended
☒Yes ___No (Explain on reverses side)

Evaluator's Names — Date
Anne DuBarton — 9-31-11

Form 8400-04
(September 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

VISUAL CONTRAST RATING WORKSHEET

Date	June 3, 2009
District	Las Vegas Field Office
Resource Area	
Activity (program)	Proposed Wind Generation

SECTION A. PROJECT INFORMATION

1. Project Name **Searchlight Wind Project**	4. Location	5. Location Sketch
2. Key Observation Point **VP 2 – Cottonwood Cove**	Township _____ Range _____ Section _____	
3. VRM Class **VRM III**		

SECTION B. CHARACTERISTIC LANDSCAPE DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Developed in the foreground with rolling to rugged in middleground and background with pyramidal shapes and silhouettes in background	Sparse and pixilated	Vertical, horizontal, angular, and geometric
LINE	Rolling hills with distinct peaks created a bold horizon line and silhouette lines in the background	Digitate edges on hill crests, undulating	Vertical, horizontal, curvilinear, and converging
COLOR	Browns and tans with a reddish hue and darker blue hues in the background crated by atmospheric conditions	Light and dark green hues with some tan	Metallic, browns, and tans
TEX-TURE	Medium to smooth and course in the foreground	Medium to smooth	Smooth

SECTION C. PROPOSED ACTIVITY DESCRIPTION

	1. LAND/WATER	2. VEGETATION	3. STRUCTURES
FORM	Possible geometric patterns created by cut and fill	Possible geometric shapes created by clearings for roads and structure pads (construction activities)	Vertical, angular, and oscillating (revolving/gyrating)
LINE	Edges and lines created by possible visible cut and fill	Possible lines and edges created by clearing vegetation for construction activities	Vertical, angular, and circular line features
COLOR	Tans and browns	Light to dark greens	White (or gray)
TEX-TURE	Patchy and smooth	Patchy	Smooth

SECTION D. CONTRAST RATING ☐ SHORT TERM ☒ LONG TERM

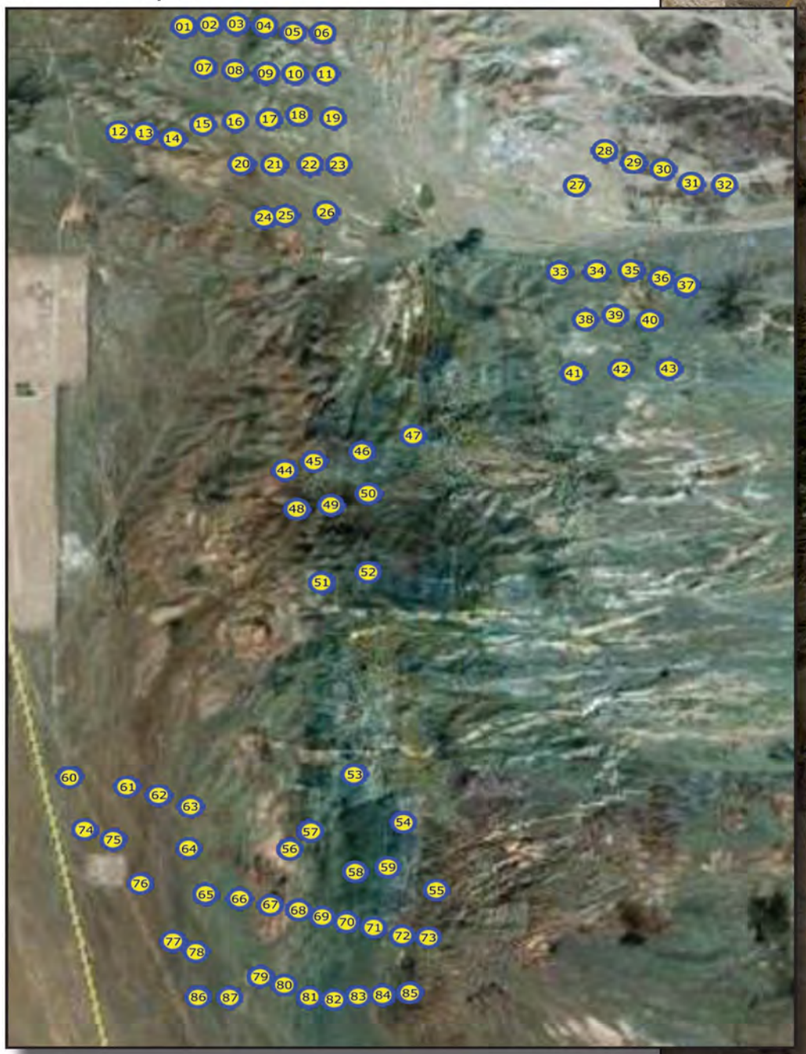
1. DEGREE OF CONTRAST		FEATURES												2. Does project design meet visual resource management objectives? ☐ Yes ☒ No (Explain on reverse side)
		LAND/WATER BODY (1)				VEGETATION (2)				STRUCTURES (3)				3. Additional mitigating measures recommended? ☒ Yes ☐ No (Explain on reverse side)
		Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	Strong	Moderate	Weak	None	
ELEMENTS	Form			X				X				X		Evaluator's Names Date
	Line		X						X		X			Robert Evans June 3, 2009
	Color			X					X		X			
	Texture			X				X				X		

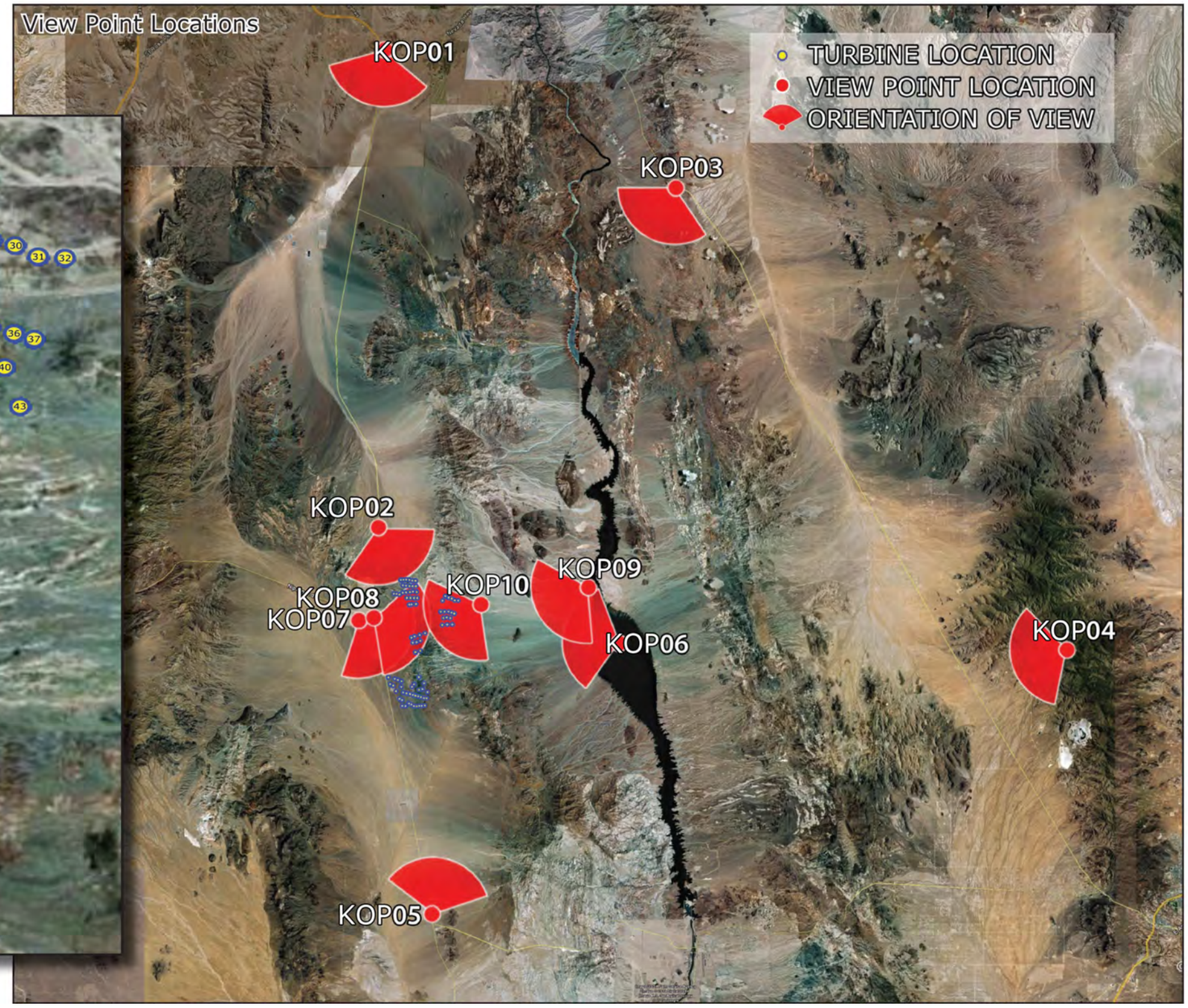
Duke Energy Searchlight

www.truescape.com

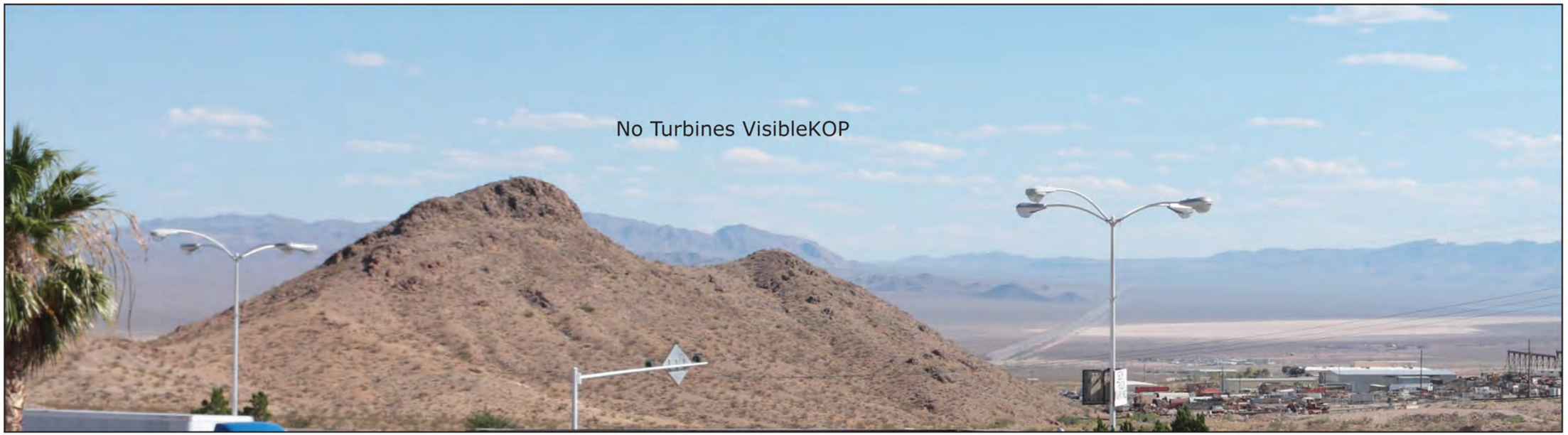
Viewpoint Locations

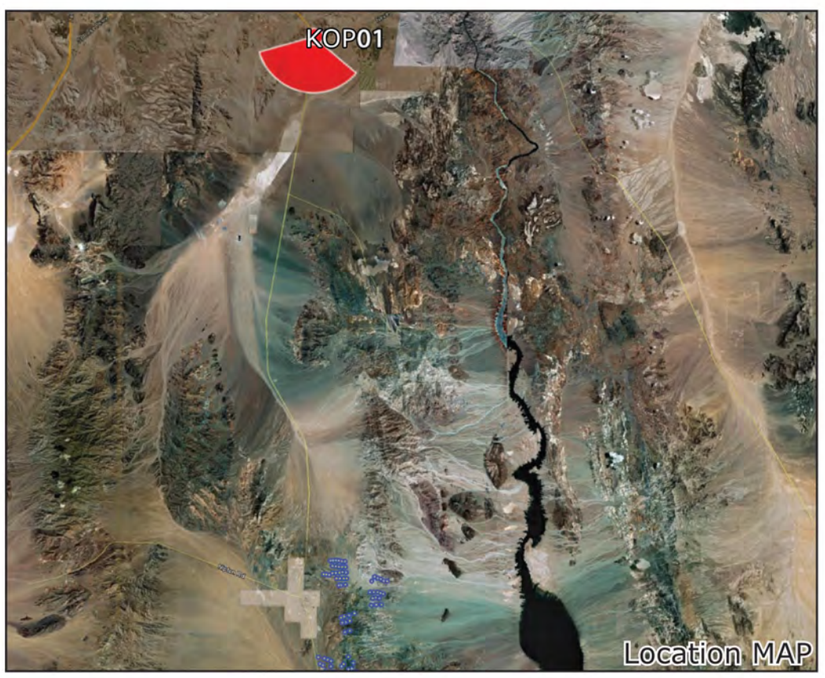
Turbine Layout





KOP01 - View from Railroad Pass hotel/casino

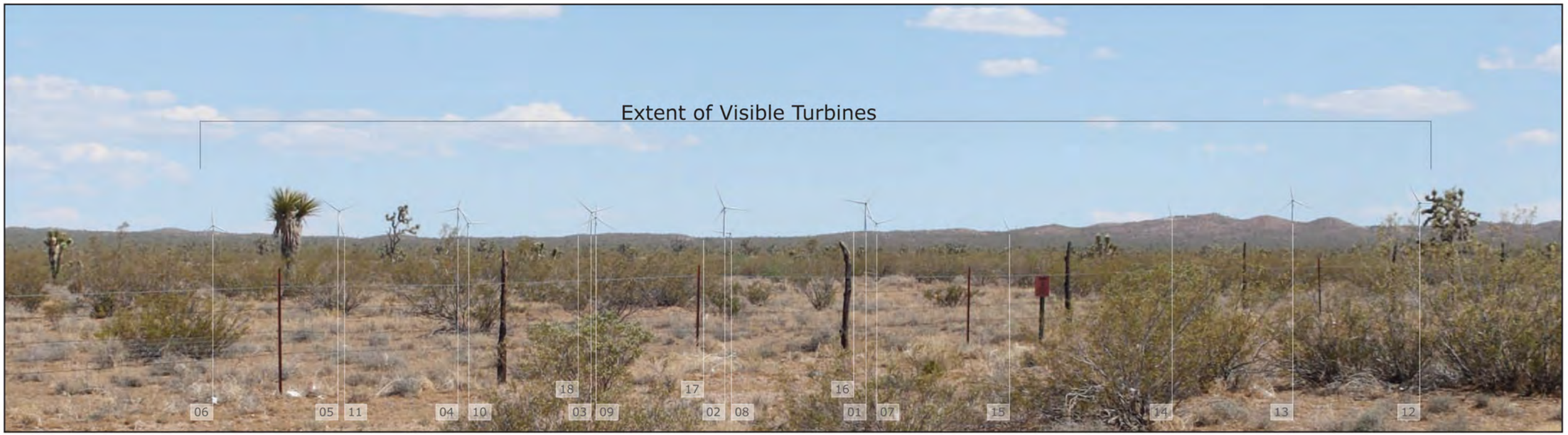


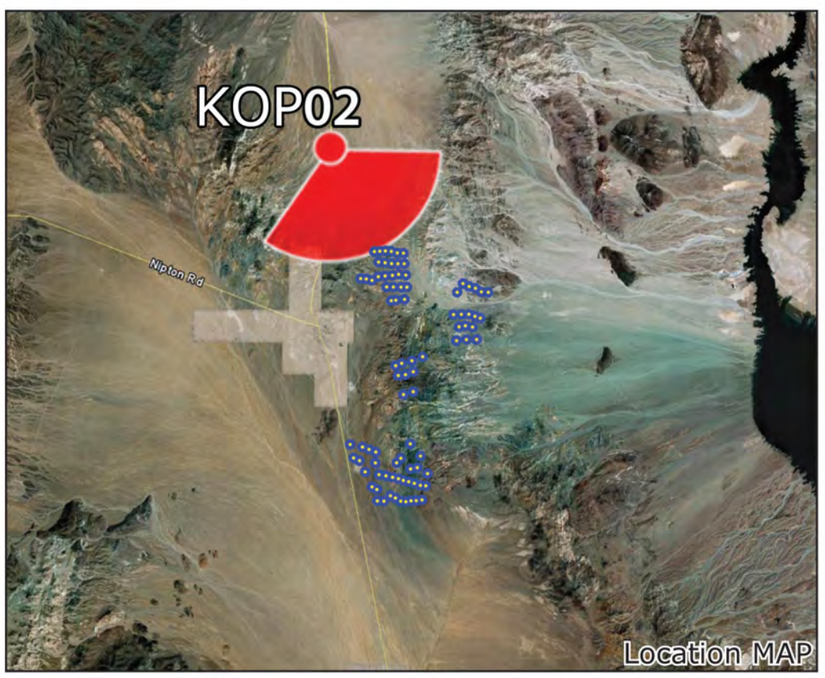


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE None

KOP02 - View to the south from US 95 north of project area

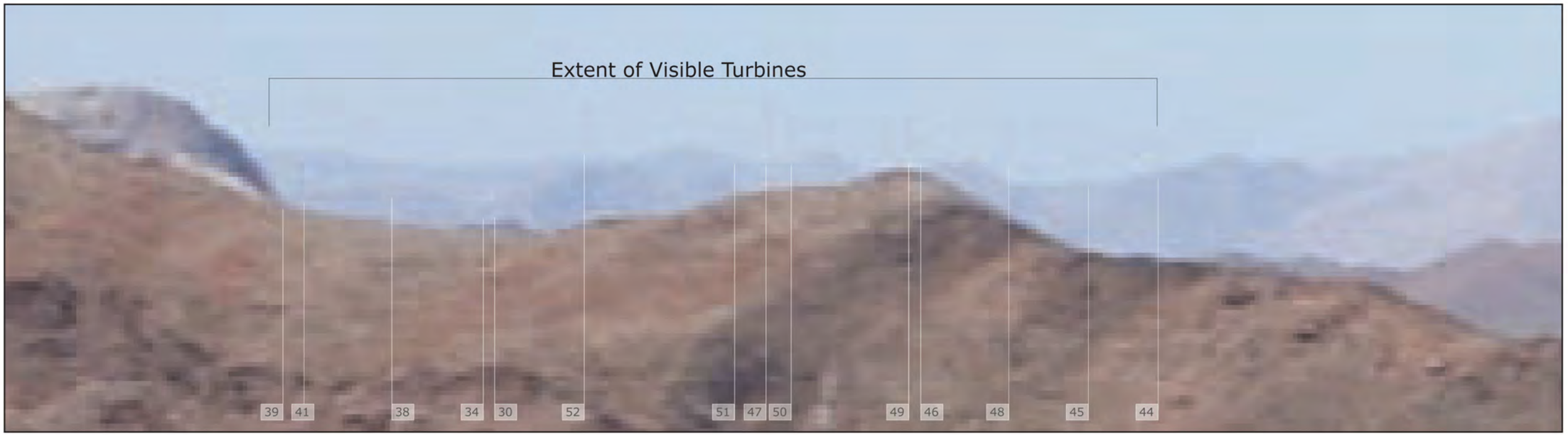


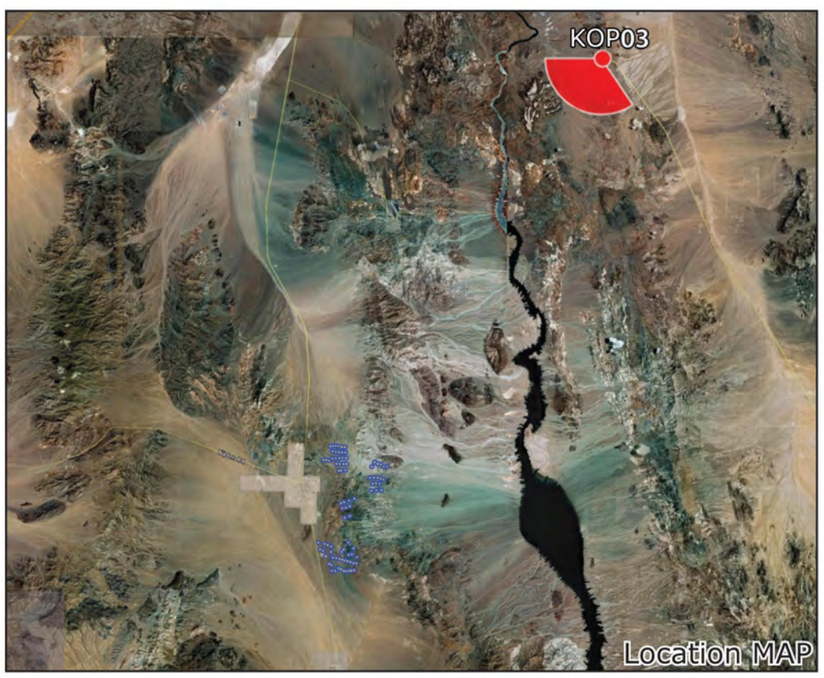


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 3.5mi

KOP03 - View from US 93 looking SW

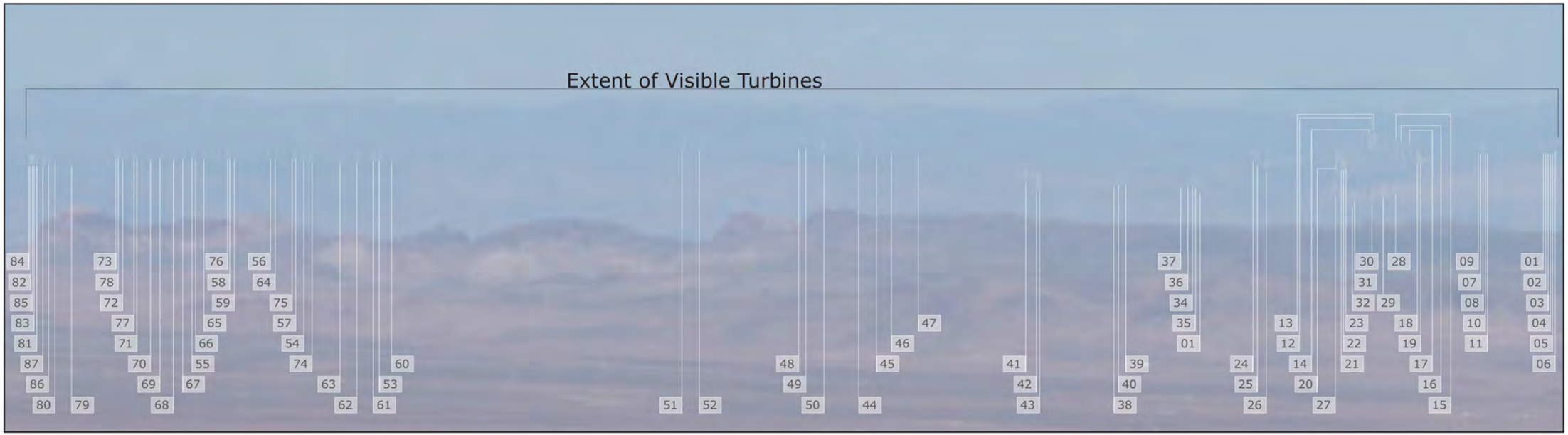




Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 29.6mi

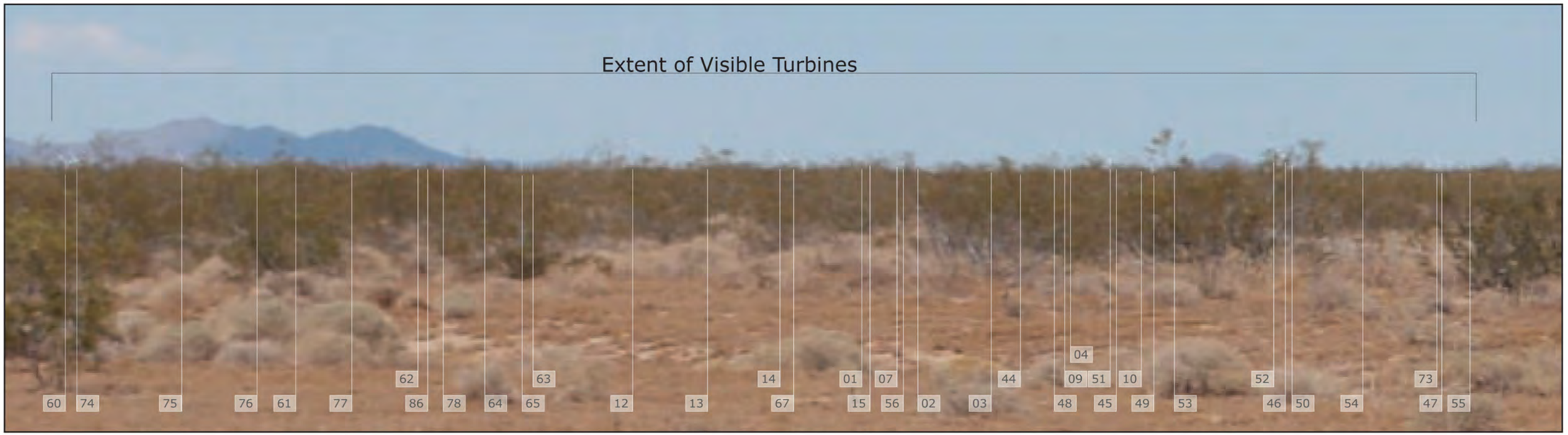
KOP04 - Windy Point Camping Area

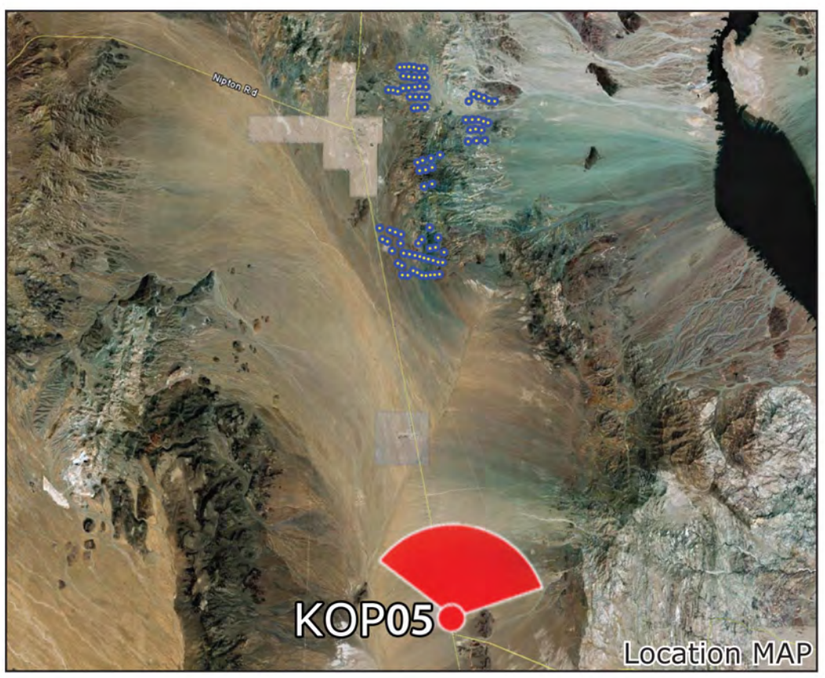


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 37.7mi

KOP05 - View from Palm Gardens, NV State Route 163/95

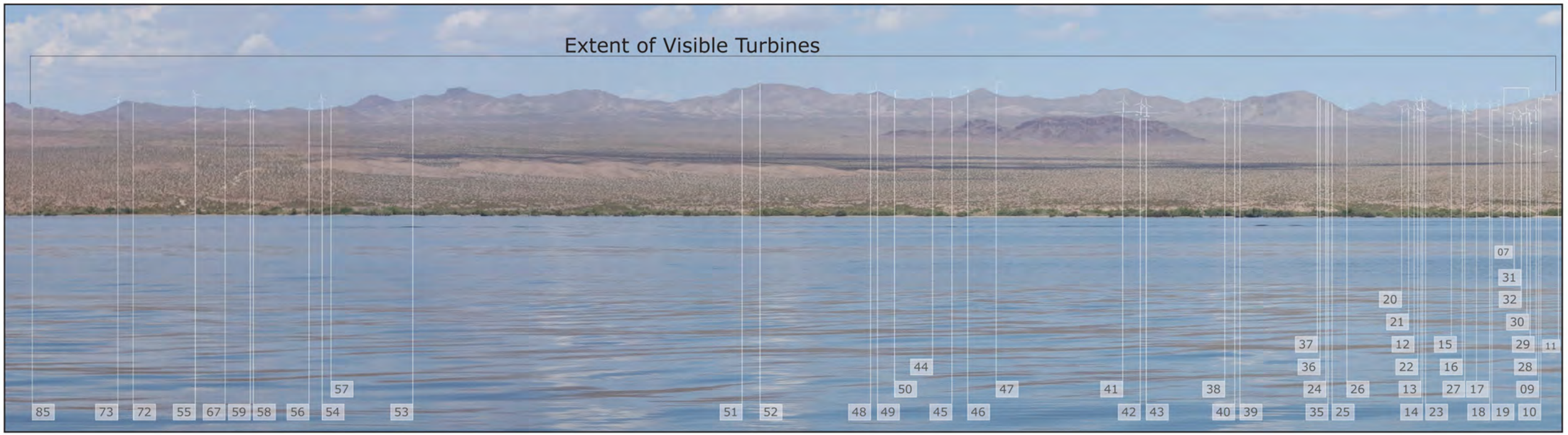


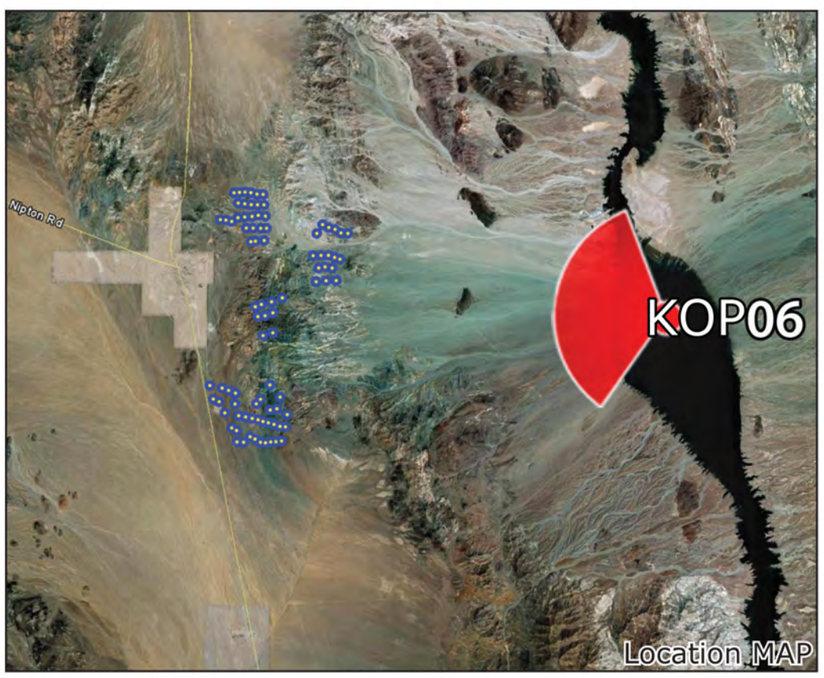


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 13.3mi

KOP06 - On Lake Mohave, view to the west at point where lake widens

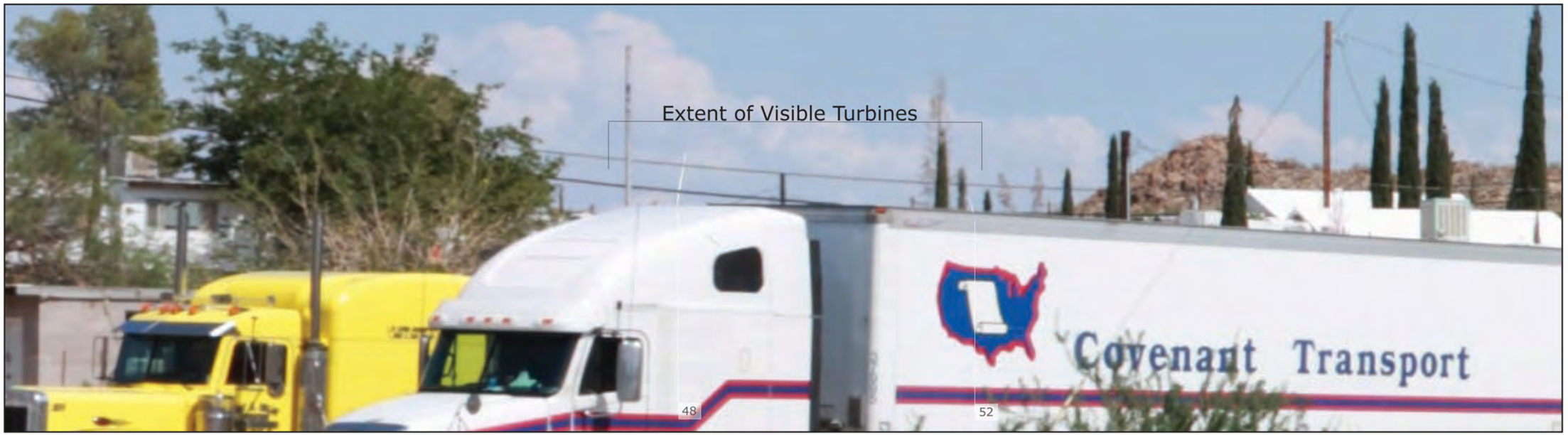


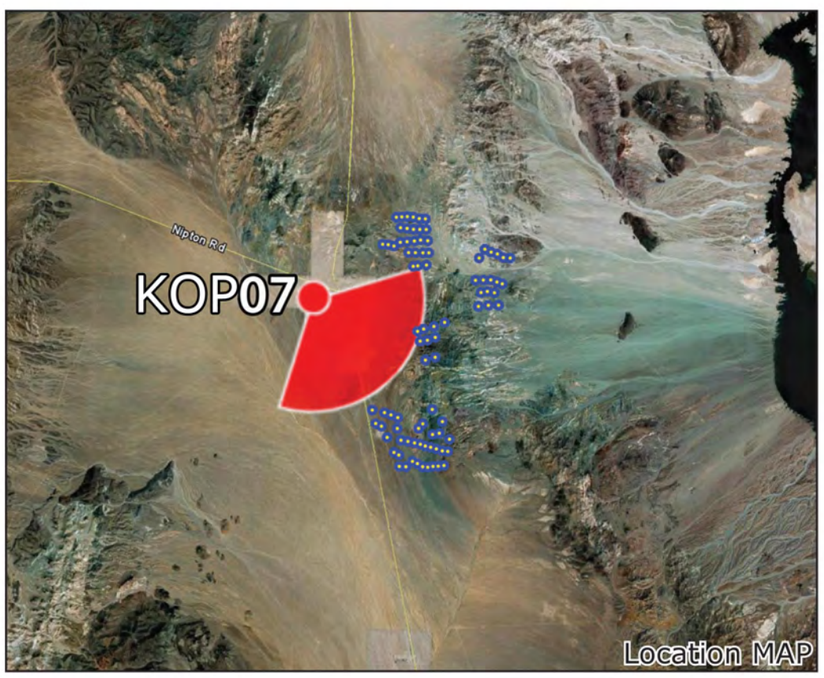


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 2.9mi

KOP07 - Searchlight Nugget Casino

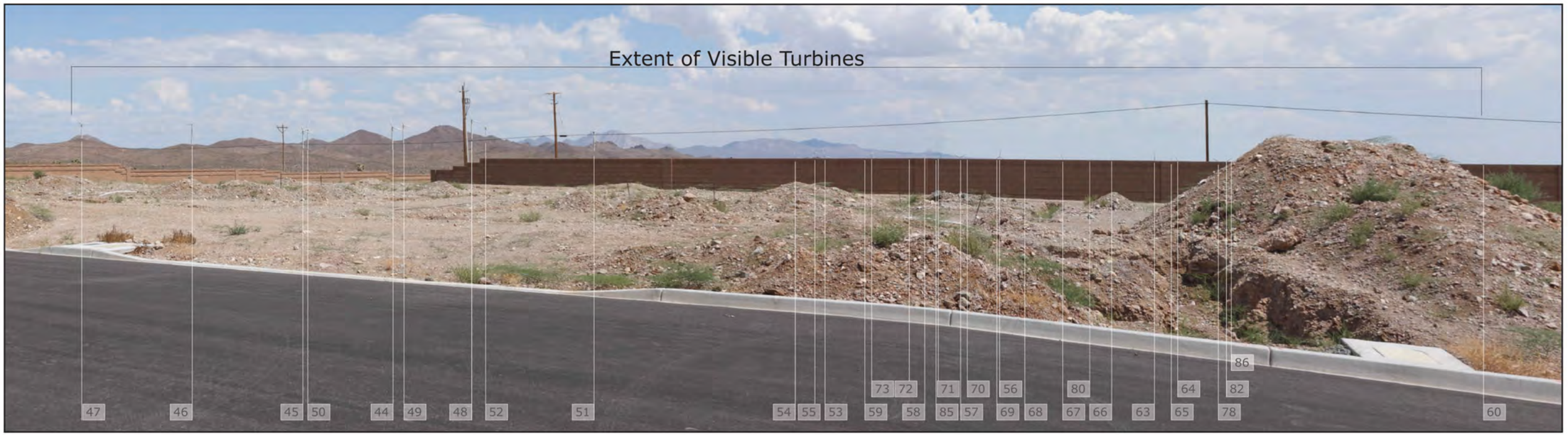


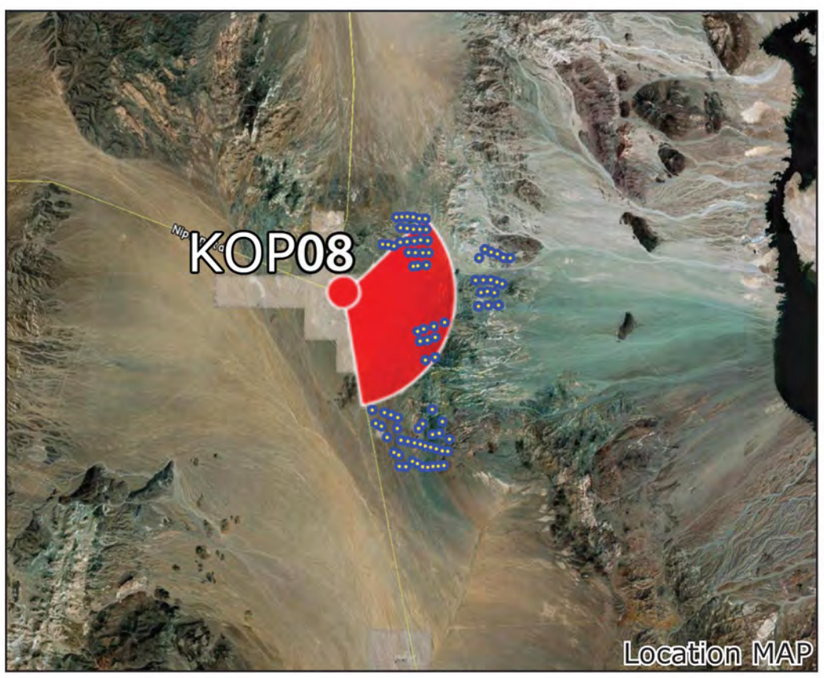


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 2.9mi

KOP08 - View from new residential area on west end of town. Sleep Cove between Lake Breeze and Shady Cove

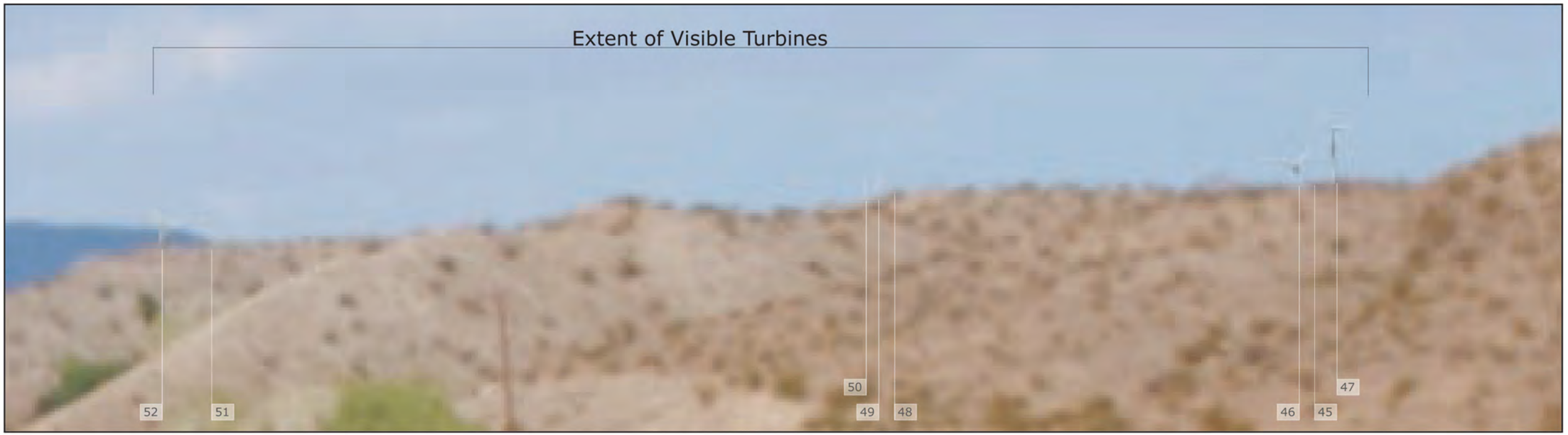


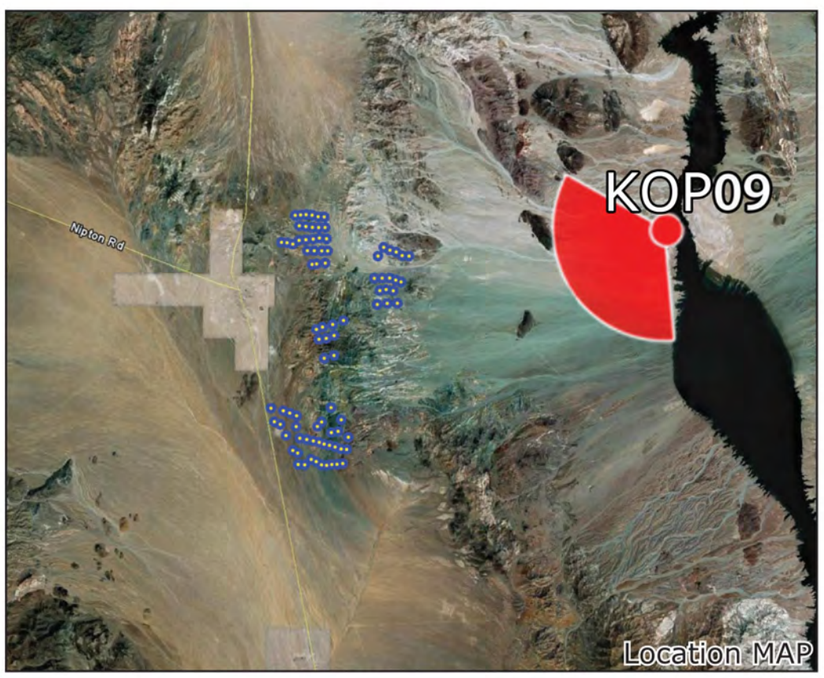


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 2.1mi

KOP09 - New dock/pier facility

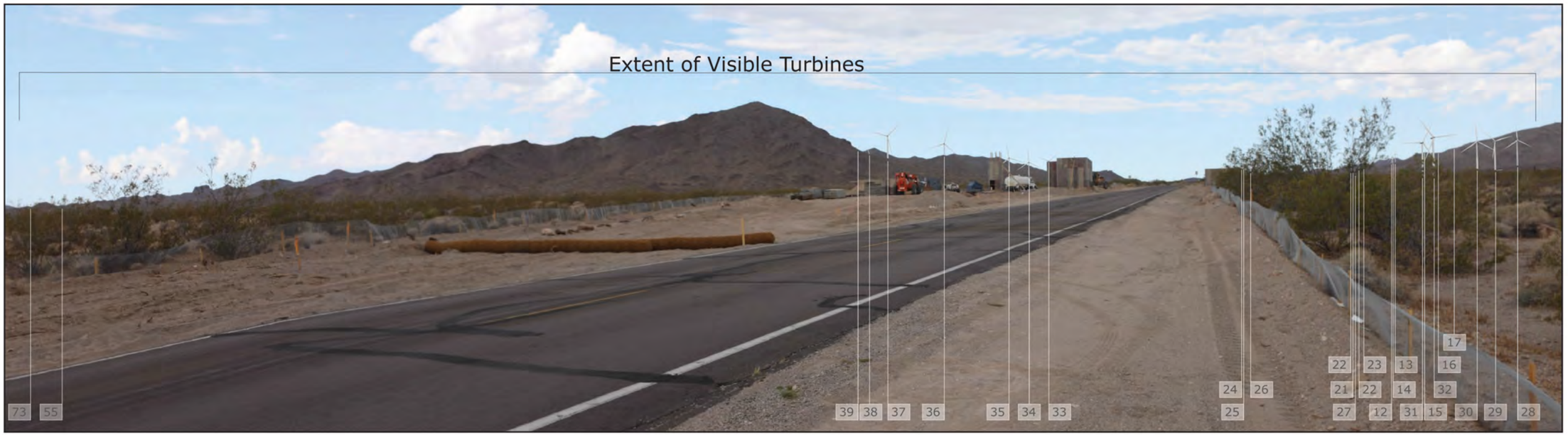


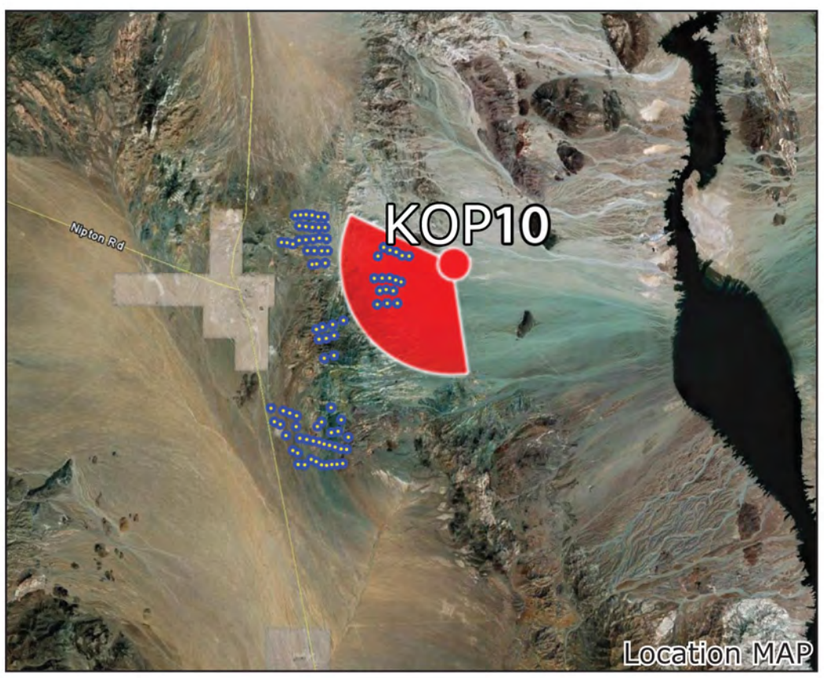


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 10.5mi

KOP10 - View east toward entrance station and turbines





Extent of full TrueView™ simulation

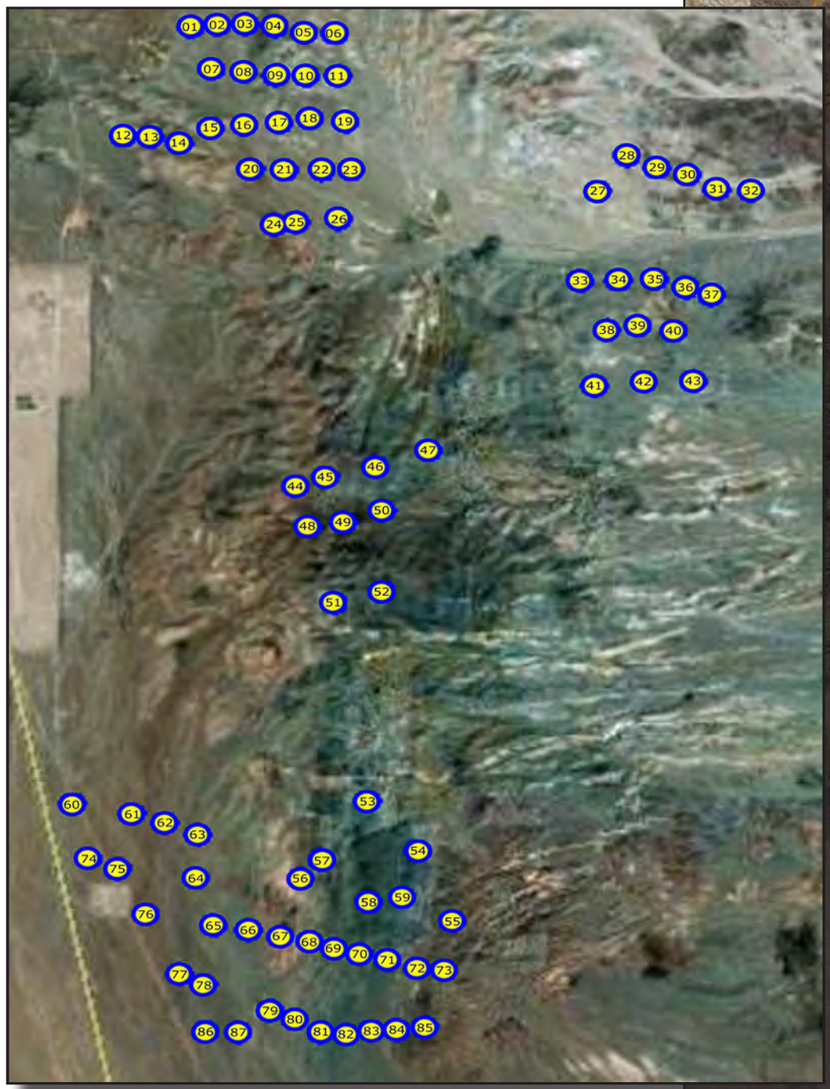
DISTANCE TO NEAREST VISIBLE TURBINE 1.4mi

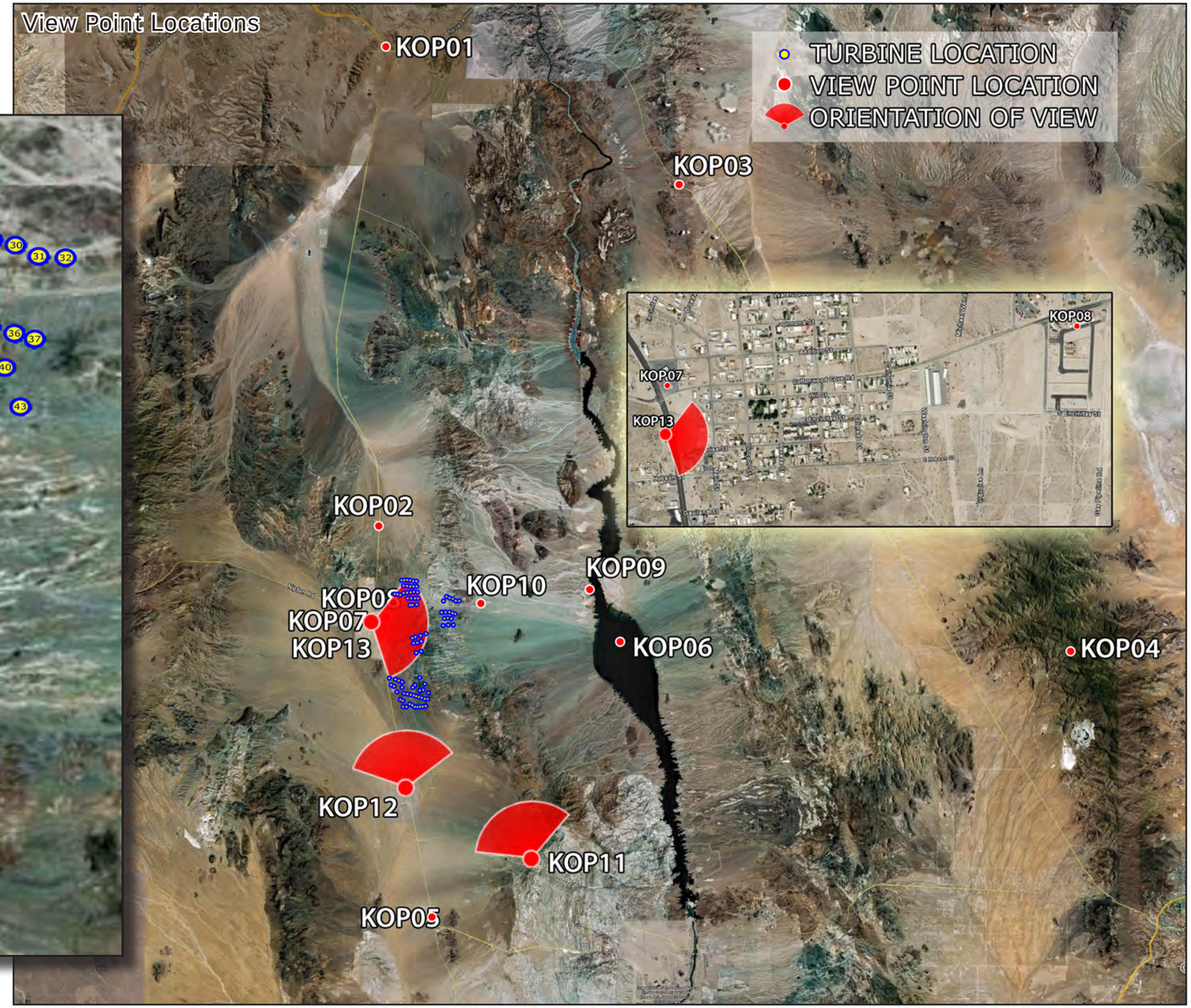
Duke Energy
Searchlight

www.truescape.com

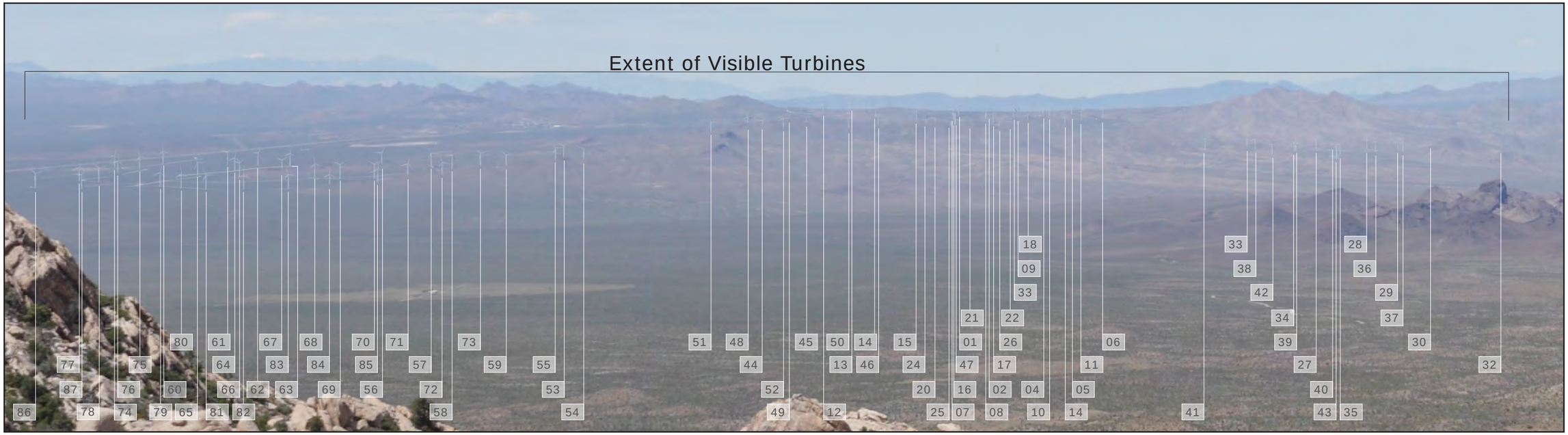
Viewpoint Locations

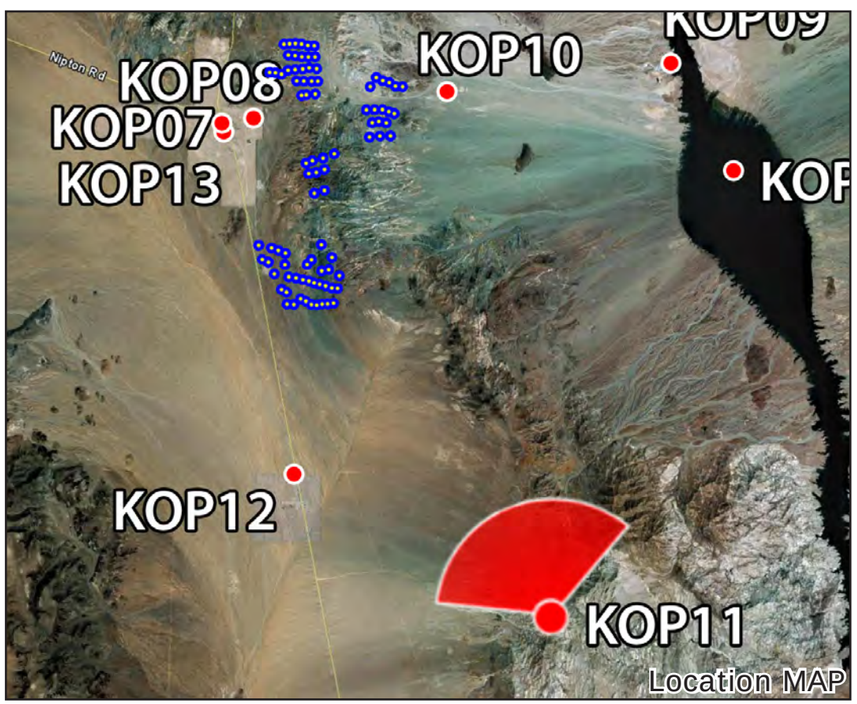
Turbine Layout

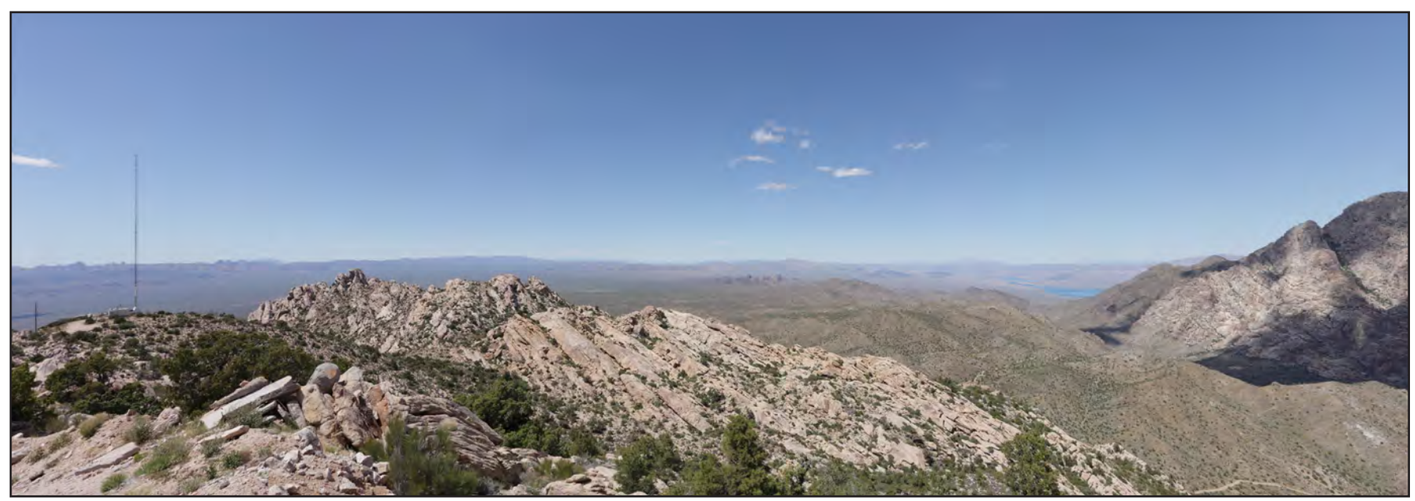




KOP11 - Comms towers near to Spirit mountain



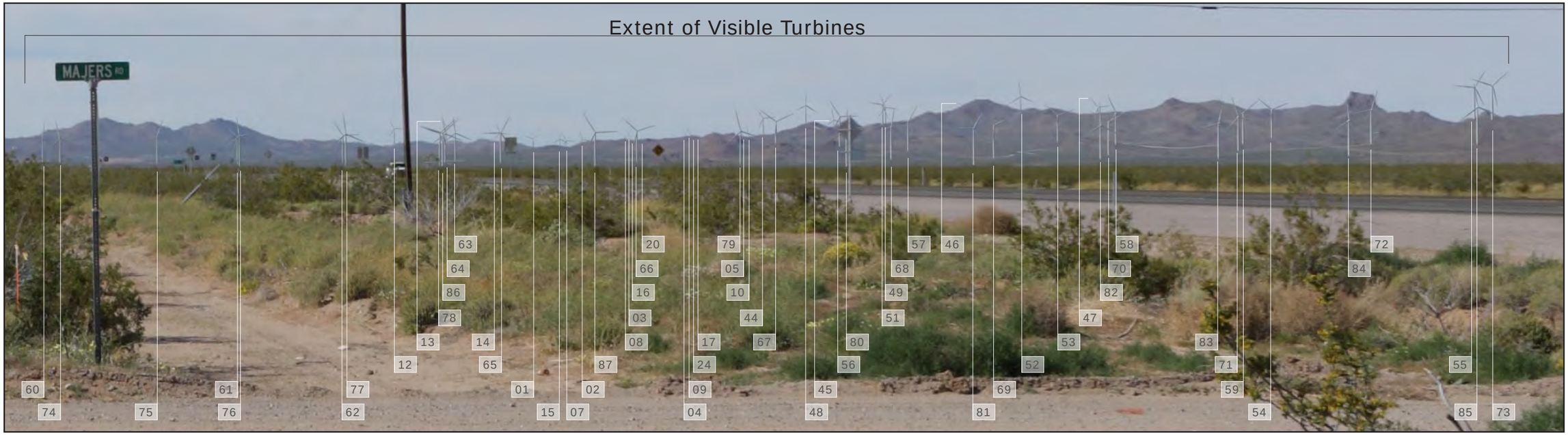


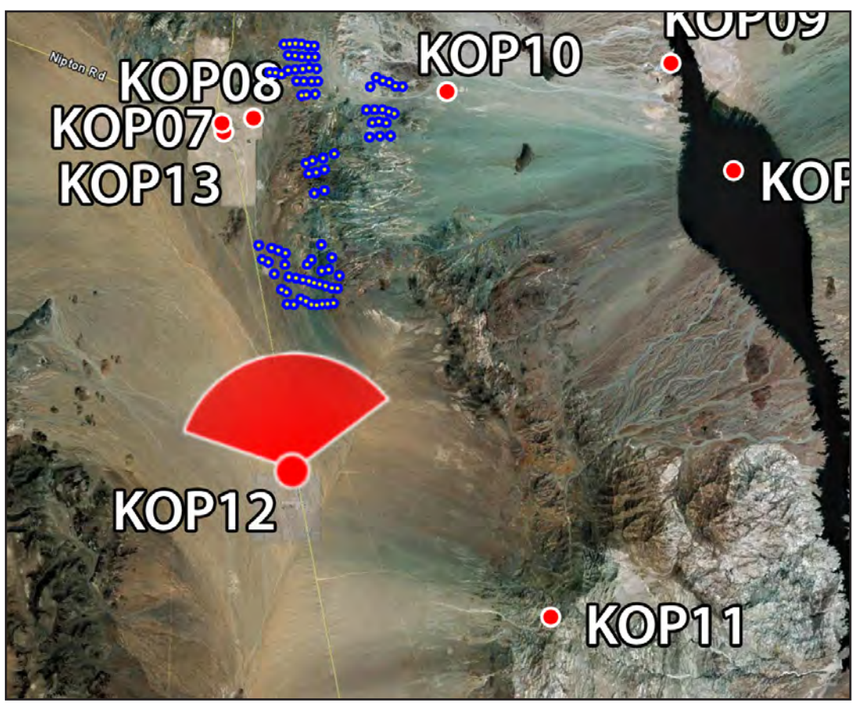


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 11.4mi

KOP12 - Looking north to Searchlight

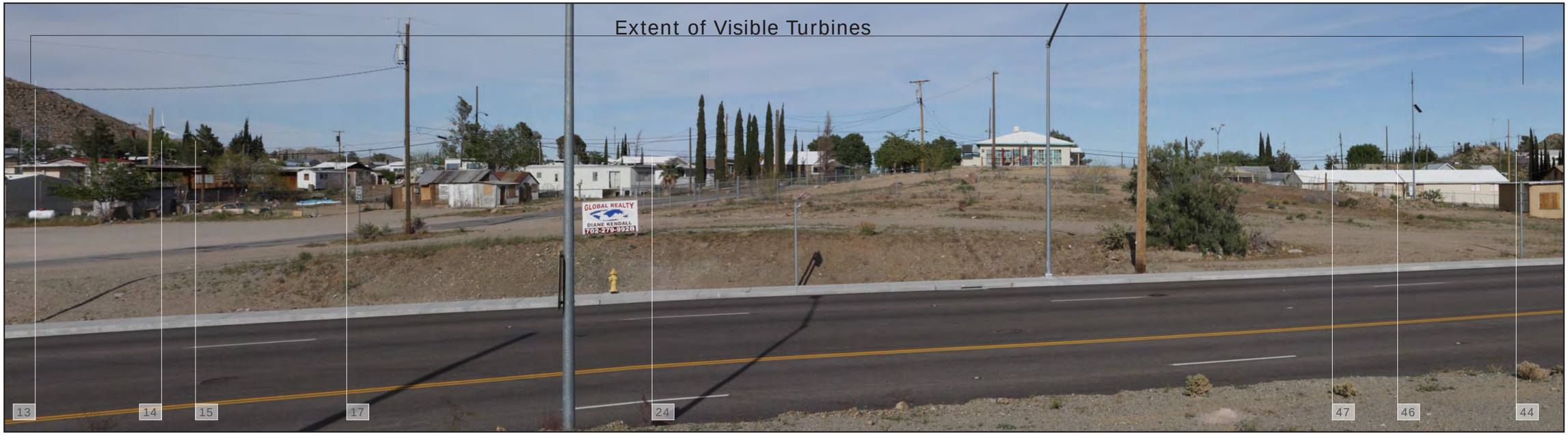


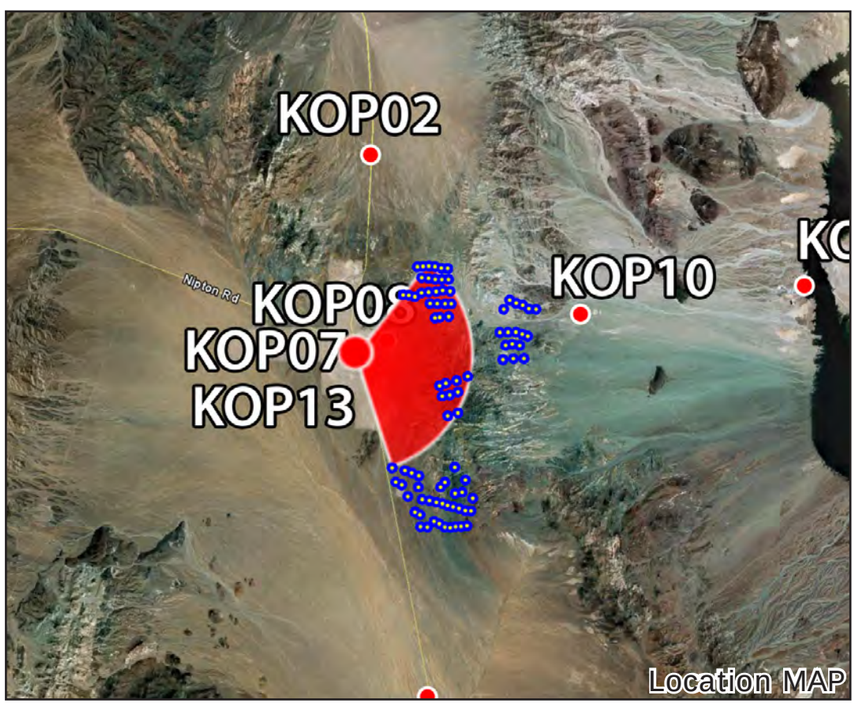


Extent of full TrueView™ simulation

DISTANCE TO NEAREST VISIBLE TURBINE 5.1mi

KOP13 - Outside Searchlight historic hospital





Extent of full TrueView™ simulation

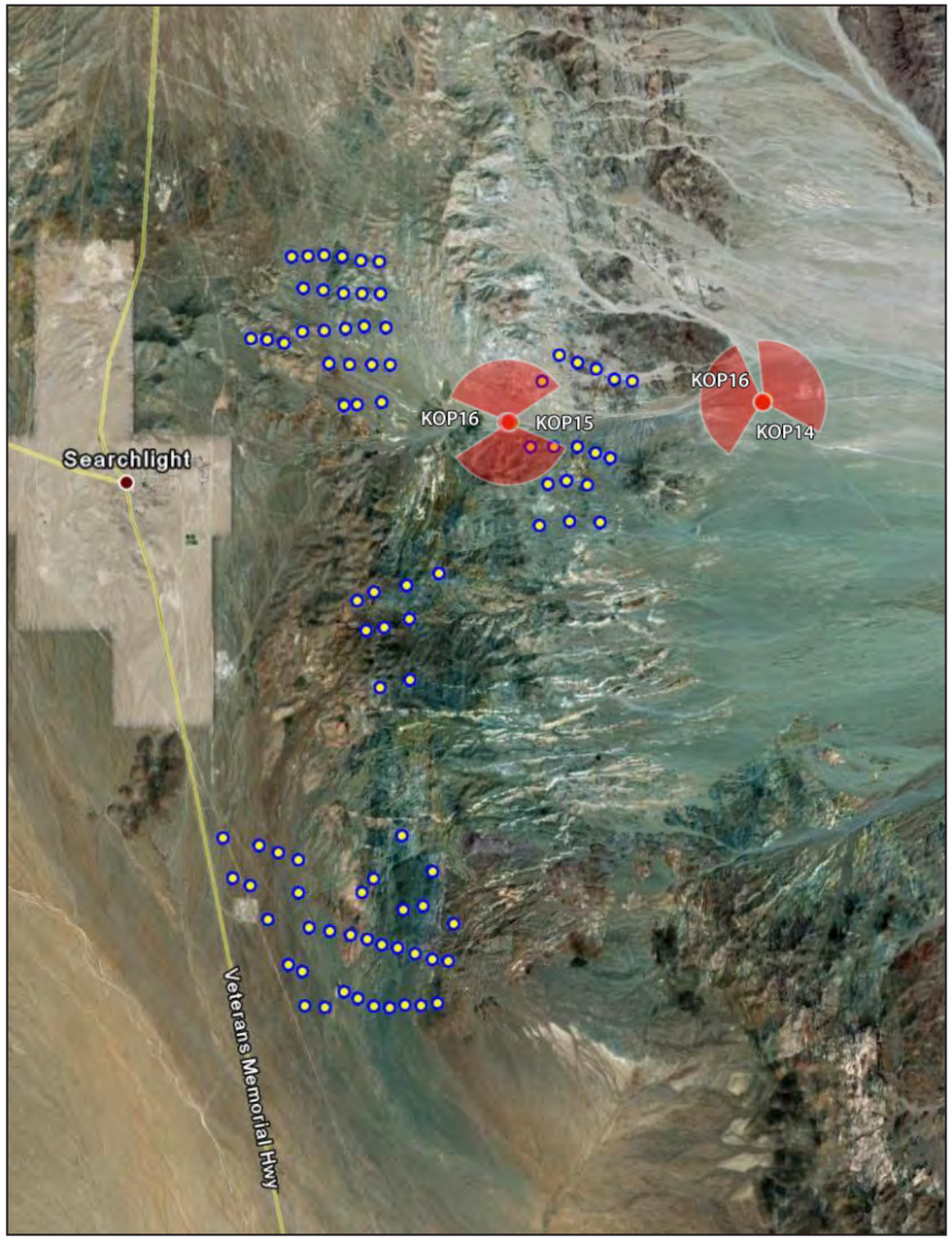
DISTANCE TO NEAREST VISIBLE TURBINE 2.1mi

TRUESCAPE
VISUAL COMMUNICATION

Duke Energy Searchlight

www.truescape.com

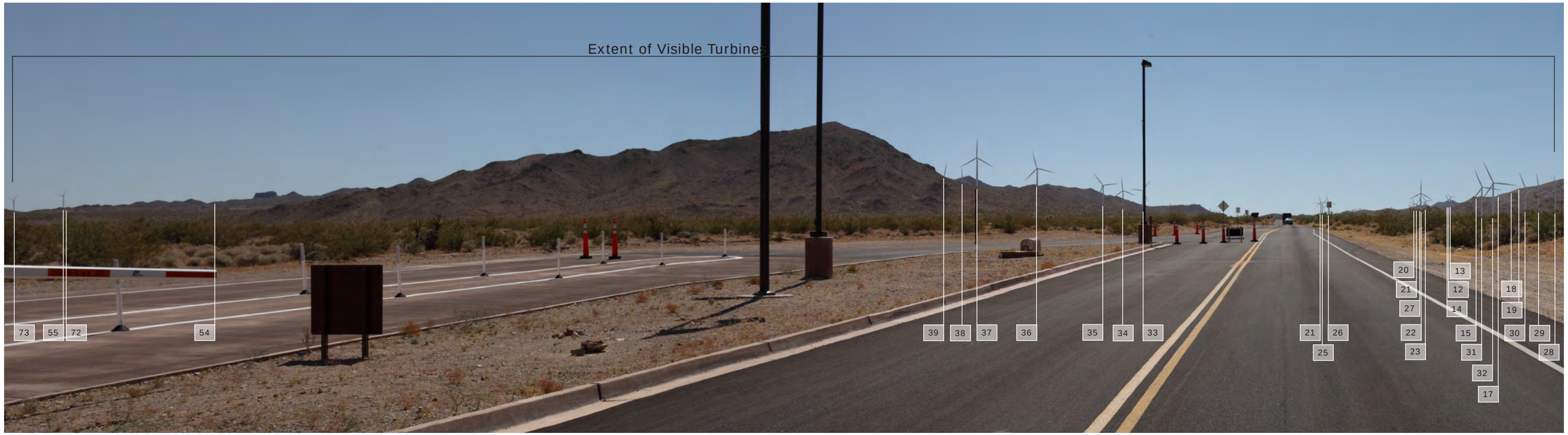
Viewpoint Locations

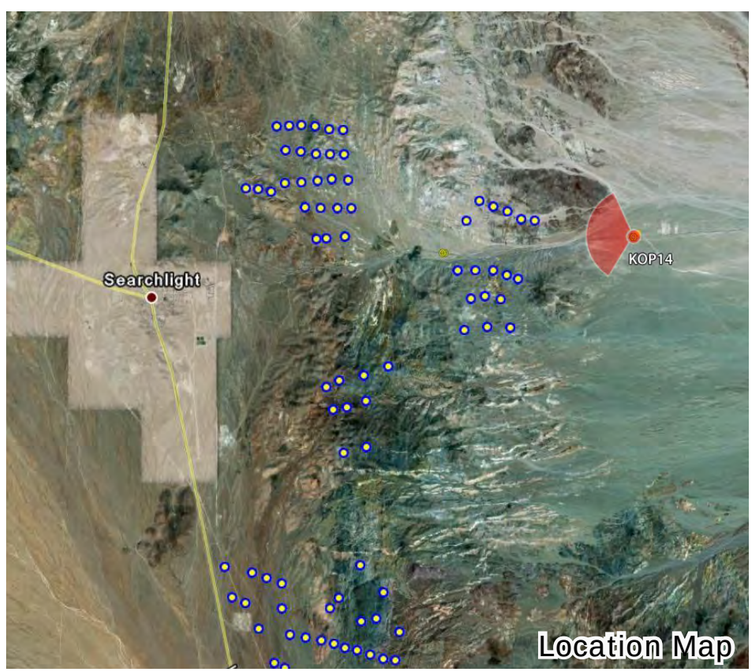


Searchlight

KOP14	View from Cottonwood Cove Road looking West
KOP15	View from Cottonwood Cove Road looking South
KOP16	View from Cottonwood Cove Road looking North
KOP17a	View from Cottonwood Cove Road looking East - Option01
KOP17b	View from Cottonwood Cove Road looking East - Option02
KOP17c	View from Cottonwood Cove Road looking East - Option03

KOP14 - View from Cottonwood Cove Road looking West

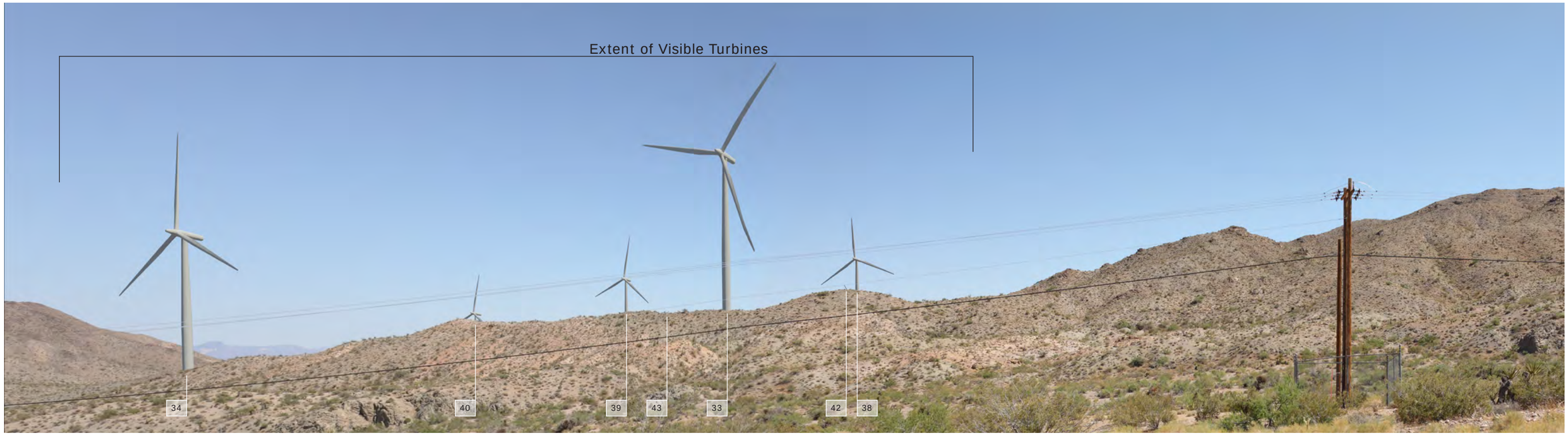


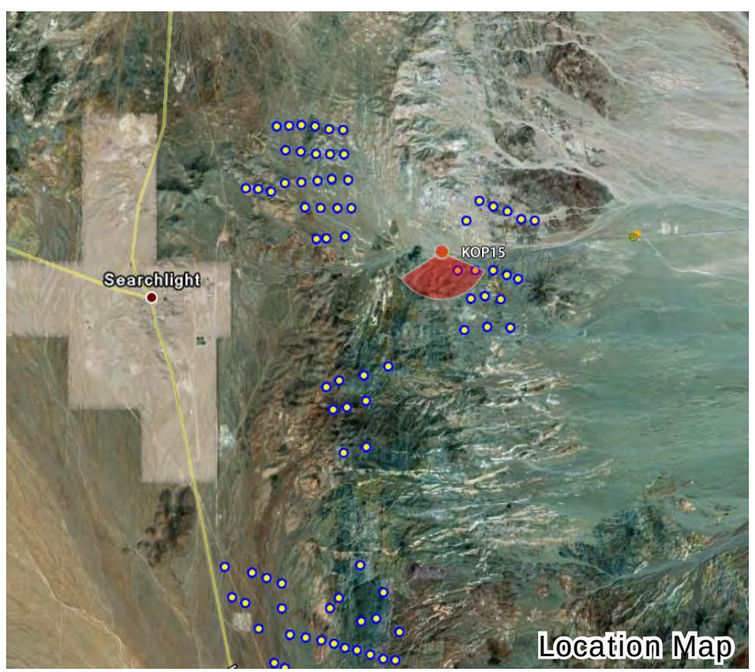


Entire Trueview

DISTANCE TO NEAREST VISIBLE TURBINE (Mi): 1.4

KOP15 - View from Cottonwood Cove Road looking South

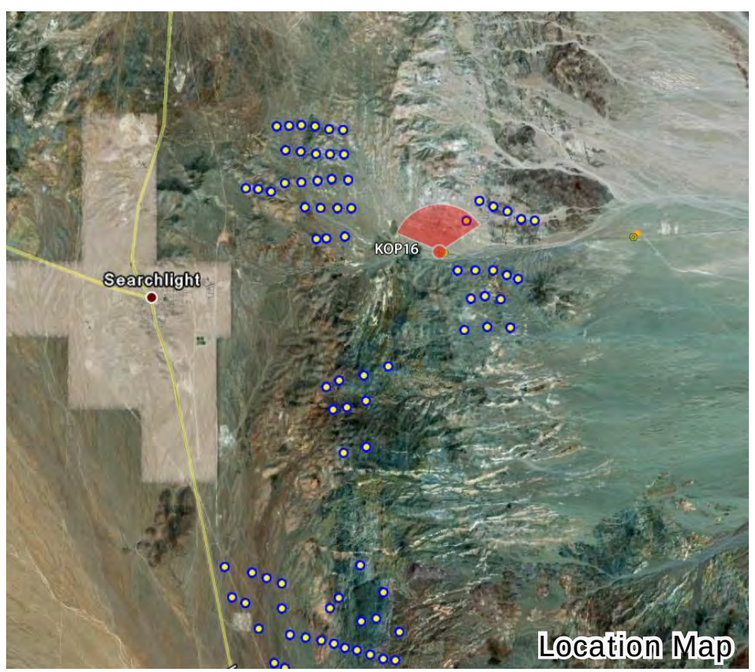




Entire Trueview

DISTANCE TO NEAREST VISIBLE TURBINE (Mi): 0.3

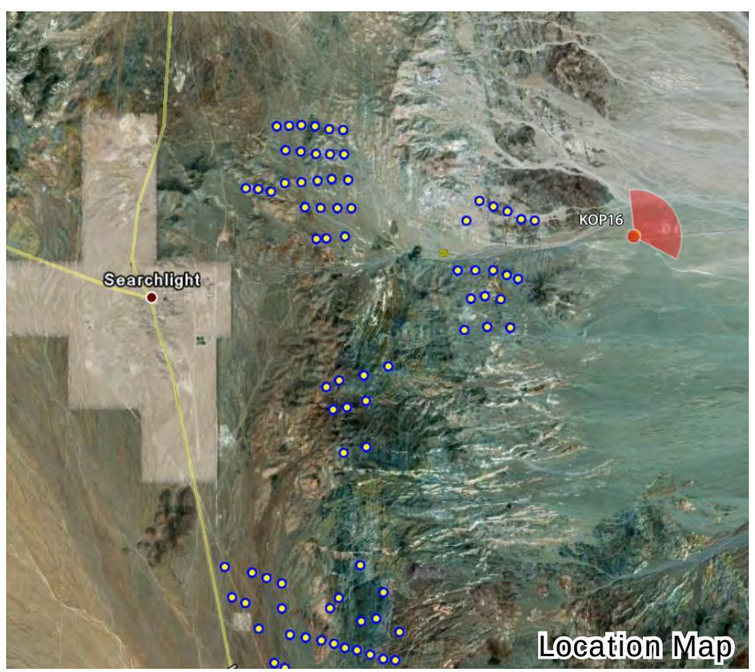
KOP16 - View from Cottonwood Cove Road looking North



Entire Trueview

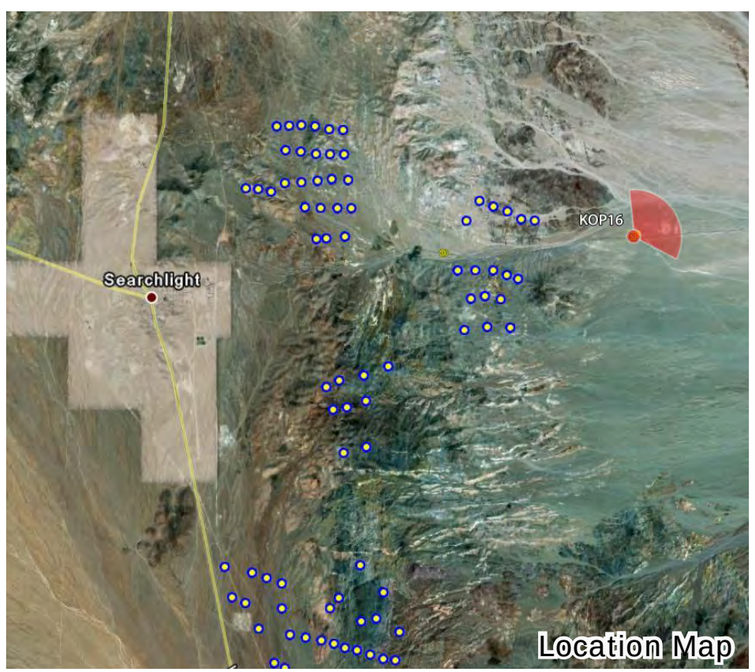
DISTANCE TO NEAREST VISIBLE TURBINE (Mi): 0.6

KOP17a - View from Cottonwood Cove Road looking East - Option01



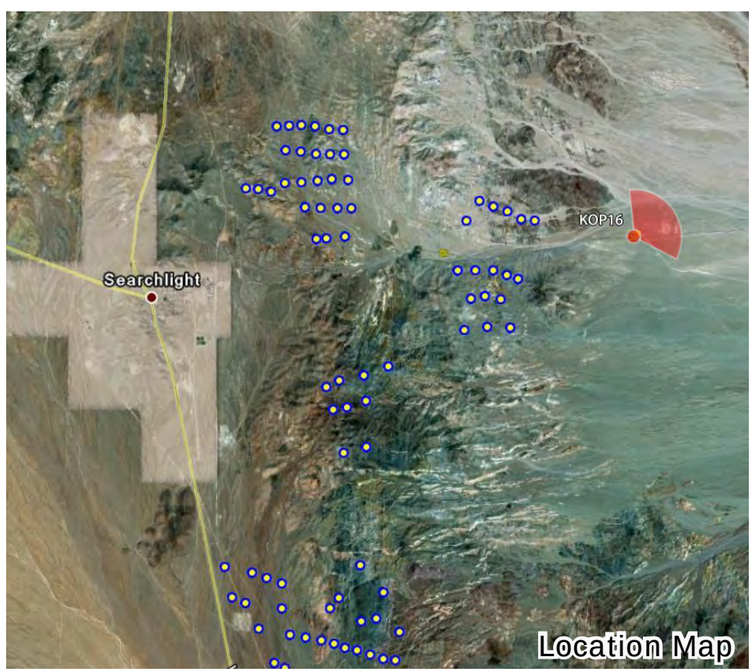
Entire Trueview

KOP17b - View from Cottonwood Cove Road looking East - Option02



Entire Trueview

KOP17c - View from Cottonwood Cove Road looking East - Option03



Entire Trueview

Appendix F: Literature Review of Socioeconomic Effects of Wind Project and Transmission Lines

Prepared for”

The Bureau of Land Management
For the Searchlight Wind Energy Project

Prepared by

Bootstrap Solutions
752 E. Braemere Road
Boise, ID 83702

Literature on Property Value Impacts of Wind Projects

The economic effects of wind energy projects have been well documented. Several studies that have evaluated potential property value impacts are highlighted below (organized chronologically). No clear inference can be drawn from these studies and available research as the analyses vary in terms of rigor; methodology (e.g., survey sampling, statistical analysis, and expert opinion); size, location and site character of projects analyzed; and results and conclusions. However, the preponderance of research on this issue suggests that there is no negative relationship between wind energy developments and property values.

1. Jordal-Jorgensen, J. (1996). "Visual Effect and Noise from Windmills – Quantifying and Valuation. "Social Assessment of Wind Power in Denmark. The Institute of Local Government Studies (AKF). April 1996.

The first empirical study specifically addressing the potential impact of wind turbines on property values was based on property values in Denmark in 1996. In this study, the opinions of homeowners were used to derive a monetary value (in 1996 Dutch Kroners) for two contingencies. First, 342 homeowners living “near” windmills in Denmark were asked if they find windmills a nuisance, and if so, how much would they be willing to pay to have them removed. A total of (13%) homeowners from the sample of 342 thought that windmills were indeed a nuisance, and collectively they were willing to pay the equivalent of $140 (1996 US Dollars) annually to have them removed. Secondly, the same 342 homeowners were asked to indicate how much they would be willing to pay to NOT live near a windmill. Of the 26 homeowners (%) who provided a nonzero response to this question, the price they would be willing to pay to not live “near” a windmill ranged from an equivalent $2,314 to $13,429 (1996 US Dollars). The term “near” remained subjective and undefined in the survey. It was inferred by the author that house values were lower when in close proximity to windmills than for other houses located further away. The lack of statistical controls with respect to this study’s sampling, definition of terms, and analysis render its results anecdotal at best. The author candidly admits that the small number of houses located near the

wind turbines, coupled with the low proportion of that group who responded to the survey questions, produce a result that is in no way statistically significant and could be “due to coincidental factors”.

2. Grover, D. S. (2002). "Economic Impacts of Wind Power in Kittitas County, WA. “ ECONorthwest for Phoenix Economic Development Group. 1-18. November 2002.

The first comprehensive look at the impact of wind turbines on property values was conducted in 2002 by ECONorthwest for a proposed wind turbine project in Kittitas County, Washington. This study is notable for segmenting the broader economic impacts of wind turbines into now familiar categories: property values, economic impacts and tax revenues. The property values section of their study consisted, in turn, of two separate analyses. First, they interviewed 13 county tax assessors from the 13 counties where a total of 22 wind turbines had been installed in the previous ten years. Six of those counties had residential properties that were in view of the turbines, another six had no residential properties in view of the turbines, and the 13th county had not completely installed its wind turbines to make a determination regarding the view shed. Assessors in five of the six counties with residential views stated that they had not determined any negative impact on property values. Hoen (2006, page 8) concludes in his review of this study that “…the fact that residents did not complain (correlation) does not mean conclusively that property values are not affected (causation)”. The second strategy employed by ECONorthwest to assess the impact of wind turbines on property values was a literature review of peer-reviewed journal articles. Their review found only the 1996 Danish study by Jordal-Jorgensen (see above item #1) meeting their criteria for inclusion.

3. Sterzinger, G., F. Beck, et al. (2003). "The Effect of Wind Development on Local Property Values." Renewable Energy Policy Project. 1-77. May 2003. http://www.repp.org/articles/static/1/binaries/wind_online_final.pdf [Viewed 8-11-08].

Probably the best known wind farm study, and certainly the most rigorous up to that time, appeared in 2003. The Renewable Energy Policy Project (REPP) studied ten wind farm projects located in California, New York, Texas, Vermont, Wisconsin, Pennsylvania, and Iowa. They used monthly property sales data to answer three related research questions: (1) how did prices change over the entire period of the study for sales occurring in the viewshed and outside of the viewshed of the turbines. The viewshed was defined as a five-mile radius beginning at the point of the outermost turbine; (2) how did prices change within the viewshed before and after the projects came on-line; and (3) how prices changed for both the viewshed and a comparable region, but only for the period of time after the turbines came on-line. The comparable areas used as controls for this third question were defined as reasonably close communities with similar demographic, economic, and geographic characteristics and trends compared to properties within the viewshed, but located outside of any wind turbine viewshed area.

The REPP researchers used simple regression analysis to estimate how the rate of property value change was affected in each of the cases. The study found no significant empirical support that property values were diminished in any of the ten case studies from around the country. Interestingly, the study also found that for most of the project areas the property values rose more quickly in the viewshed than they did in the comparable community; that values increased faster in the viewshed after the projects came on-line

than they did before; and finally, that after projects came on-line, values increased faster in the viewshed than they did in the comparable community. For 26 of the 30 individual scenarios analyzed, property values in the affected viewshed rose more than in comparable communities.

While this study is often quoted, it has been criticized methodologically along four different lines: (1) no attempt is made to discern which of the properties within a 5-mile viewshed can actually see the windfarm; (2) the viewshed impact is categorical, in that no attempt is made to control for distance to the turbines. That is, the viewshed "impact" is the same, whether the property is adjacent to the windfarm or farther away (up to five miles); (3) the sole reliance on the R^2 statistic is flawed, especially when very low values of that statistic are relied upon; and (4) the universe of property transactions was analyzed without further refinement or filtering out of those transactions not occurring "at will", due to such circumstances as estate sales, divorce, sale to family members, etc. (Hoen 2006, p16-17).

4. Haughton, J., D. Giuffre, et al. (2004). "An Economic Analysis of a Wind Farm in Nantucket Sound." Beacon Hill Institute at Suffolk University. 2-83. May 1, 2004 http://www.beaconhill.org/BHIStudies/Windmills2004/WindFarmArmyCorps.pdf [Viewed 8-11-08].

Shortly after release of the above cited REPP study, citizen groups opposed to development of a windfarm in Nantucket Sound coalesced around researchers Haughton and Giuffre and David G. Tuerck's Beacon Hill Institute, commissioning a survey of 45 real estate agents and 501 residents of Cape Cod and Martha's Vineyard. While this study was the first survey of the impact of windfarms on property values in the US since the 1980's, its publication was met with a polarized reception based on its findings.

The study concluded, perhaps prematurely, that the presence of a large scale windfarm on Nantucket Sound could be perceived as a loss in amenity value. Twenty-one percent of the residents and 49% of the realtors reported a negative, adverse expectation of property value decline. For the resident group, the 21% with negative expectations thought that property values would decline by between 4% and 10%, with the higher amount reflected along waterfront property. The 49% of realtors with negative expectations thought values would decline an average of 4.6%.

As late as 2007, the results of this opinion study have been utilized by opponents of windfarms. In an article written by journalist Wendy Williams, she quotes one extrapolation of the study's findings: "It is estimated that property values in the six affected towns would fall by 4 percent. This represents a loss of $1.35 billion in property values, or almost twice the cost of the windmill project". Williams then elaborates on the methods used by the Beacon Hill Institute when interviewing local residents: "…Tuerck's surveyors showed 501 homeowners in the six towns around the Sound photo simulations of what the offshore wind project would allegedly look like from their homes. Then the team asked homeowners if they thought their properties might drop in value once Cape Wind was built. Sampling a group that has been constantly assaulted with doom-and-gloom anti-windfarm hysteria for several years is unlikely to yield a useful result. Even so, 79% of interviewees said they did not expect a drop in home value – a fact which is not mentioned in the Institute's summary and study analysis". Wendy Williams is co-author, with Robert Whitcomb, of Cape Wind: Money, Celebrity, Class, Politics and the Battle for Our

Energy Future on Nantucket Sound. The Op-Ed piece cited above appeared Providence (Rhode Island) Journal, June 27, 2007.

The important contribution of this study is that it attempts to legitimize perceived declines in property values as worthy of analysis in its own right, thus evading criticism that such perceptions may or may not reflect actual changes in property values. In subsequent years, the pursuit of documentation regarding perceptions about property value impacts remains as strong as the pursuit of documentation regarding the impact of windfarms on actual property values and transactions.

5. DeLacy, P. Barton. A LULU of a Case: Gauging Property Value Impacts in Rural Areas. Real Estate Issues, Fall 2004.

Both chronologically and substantively, Barton DeLacy's article for the online journal Real Estate Issues marks the next significant contribution to our understanding of this issue. While his article is not an empirical review of any particular wind turbine project, it represents the reflections and views of an experienced researcher.

DeLacy includes windfarms within the group of Locally Undesirable Land Uses (hence the acronym LULU), exemplified by prisons, landfills, power transmission lines, and toxic waste sites. All of these land uses, when initially proposed, can trigger environmental impact statements (EIS, EA, etc.) and elicit excruciatingly detailed public information based on attitude, opinion, perception, expectations, and the like. Experts, he says, are asked to provide a before-and-after valuation theory to a particular affected area for a particular proposed land use, often without access or reference to empirical market transactions. Particularly in rural areas, where the number of residential properties is low to begin with, the corresponding ratio of actual transactions is even lower, with the number of such transactions occurring in close proximity to the LULU approaching zero.

Case studies of LULU's in urban areas have established that stigma, noise, and even toxic emissions do not influence property values much beyond a two-mile radius, while negative perceptions and attitudes about the LULU might suggest otherwise. For rural areas, and with particular reference to windfarms, he makes the point that land most nearly adjacent to the LULU is usually provided a lease or other compensation, with buffers and restrictions extending the proximity of residential structures to beyond one mile.

DeLacy further legitimizes the concept of stigma and other perceived impacts as legitimate concerns that impact the marketability of a property. Stigma (what can (cannot?) be seen, smelled, heard, etc.) has much more to do with reputation and with the intangible components of human desire than with easily measured variables including distance, line of sight, earshot, etc.

He further distinguishes the impact of stigma from a LULU on residential properties in a rural setting from a LULU on primarily agricultural properties in the same setting. Whereas residential property is sensitive to nuance, reputation, and other intangibles connected with mountain views, access and frontage on a stream, and the like, farmland is bought and sold based on its productivity and utility. Farmland, because of its expanse and comparatively lower unit values (compared to urban land) has seldom been found to be affected by structures, so long as no material damage can be shown. Farmland does lose value

if its water rights are revoked or its soil turns fallow. The presence of transmission towers or windmills does not adversely affect value because the parcels are too large with too low a unit value to be sensitive to that type of influence. In addition, the lease arrangements that typically involve large parcels of agricultural private land for such structures provide the owner with compensation far in excess of any calculated production value for the acreage involved.

He concludes his article with three generalizations: (1) Property values seem resilient, particularly in areas with sustained population growth; (2) the value of large parcels in agricultural use (multiple acreage) seem far more likely to be affected by production and transaction factors (like the availability of water and the costs of mortgage financing) than indirect impacts from LULU's; (3) property values in rural areas will be most affected by local employment and the presence of recreational opportunities.

6. Poletti, P. (2005). "A Real Estate Study of the Proposed Forward Wind Energy Center Dodge and Fond DuLac Counties, Wisconsin." Prepared for Invenergy Wind LLC. May 2005. http://psc.wi.gov/apps/erf_share/view/viewdoc.aspx?docid=35184 [Viewed 8-12-08].

The purpose of Poletti's report was to determine if the proposed Forward Wind Energy Center is located so as to minimize any adverse effect on the character of the surrounding area and on surrounding property values. The study area consisted of Dodge and Fondulac counties of Wisconsin, and a broader, "control area" extending into Illinois. The analysis was based on expert opinion and relied on a detailed review of the subject property and plans for the proposed wind energy center; on-site inspection of the subject property and surrounding area; inspection of other wind development sites; a review of uses and property values of surrounding tracts of land, including data on real estate transactions; and discussion with various assessors.

Poletti's analysis does cull out transactions that were not arms-length, thus improving on the methodology of Sterzinger, et. al. (2003). It also excludes sales of homes built before 1960 in an effort to control for house-specific characteristics such as construction quality, amenities and condition. Poletti examined roughly 300 sales that occurred in and around the two windfarms. He comes to the cautious conclusion that "there is not sufficient evidence in the data to warrant rejection of the claim that windfarms have an effect on property values." Any effect that is evidenced in the study, however, would seem to suggest an overall positive, though insignificant impact.

Poletti compares average values of properties surrounding the windfarms, which he entitles the "target area", with those in a "control area" which is outside the view of the windfarm. However, Poletti does not attempt to measure to what degree, if any, homes can actually see the windfarm. The author describes the area surrounding the windfarms as rolling with potentially obscuring features, so the implication is that some of the properties in the "target area" have no view of the windfarm. Further, no effort is made to control for distance from the windfarm.

This study is notable for the rigor and expertise brought by the author, who has wide professional experience evaluating changes in residential property values resulting from windfarm and other developments. Poletti's methodology resists the opportunity to over-use the available transaction data. For example, he is criticized by Hoen (2006) for not controlling for distance to a turbine, even though

such controls would render his otherwise statistically sound techniques unreliable due to diminishing cell sizes.

7. Hoen, B. "Impacts of Windmill Visibility on Property Values in Madison County, New York", Submitted to the Faculty of the Bard Center for Environmental Policy. Prepared in partial fulfillment of the requirements for the degree of Master of Science in Environmental Policy, Bard College, April 30, 2006.

Hoen's M.A. thesis represents the most statistically rigorous analysis of property value effects from wind energy projects to date. Its methods were later refined in a series of ongoing continuation studies that are reported here as Wiser and Hoen (2007), below. This study is also notable for its thorough review of the literature and its careful treatment of methodological and definitional issues.

Hoen's study focuses on the property value impacts of the Fenner wind energy project in Madison County, New York. It analyzed 280 arms-length single-family residential sales in the vicinity of the proposed wind development using a hedonic regression model. The sales occurred between 1996 and 2005 (140 transactions occurred after facility construction began in 2001) and were within 5 miles of the 20 turbines/30 megawatt (MW) wind development. None of the home sales were on properties that contained turbines, and none of the properties were compensated for the operation of the turbines. This study is unique in that all properties in the database were visited to "ground-truth" the actual level of turbine visibility.

The hedonic regression model focuses on two key characteristics: view of and distance from turbines, and combines them with a number of house and neighborhood characteristics to estimate the specific effect on home sales prices of the view of and distance from turbines. Although the model provides a strong statistical explanation of home values, the analysis concludes that there are no statistically-measurable effects of wind farm visibility on property values, even for those properties located within one mile of the facility and those that sold immediately following the announcement and construction of the wind farm.

Despite its methodological rigor, careful literature review, and treatment of a wide range of definitional issues, opponents of windfarms have attacked the study as "a college kid's thesis" and advised Mr. Hoen to "go back to Statistics 101". To date the scientific and professional community has been less critical of his study.

8. DeLacy, P. B. "Impacts of The Dairy Hills Wind Farm Project on Local Property Values". Technical Memorandum prepared for Dairy Hills Wind Farm, LLC and the Town of Perry, by Cushman & Wakefield, Inc. May 26, 2006, File No.: 06-34001-9104. Copy available via internet through third party archival source: http://www.maine.gov/doc/mfs/windpower/pubs [Viewed 12-3-08]

   DeLacy, P. B., "Evaluating Impacts of Wind Power Projects on Local Property Values". Technical Memorandum prepared for UPC Wind Management, LLC and the Cohocton Planning Board, by Cushman & Wakefield, Inc. November 17, 2006. File No.: 06-34001-9569B. http://www.dutchhillwind.com [Viewed 8-15-08].

These two technical memoranda are publicly available illustrations of the research approach taken by P. Barton DeLacy, a nationally known consultant, currently of Cushman & Wakefield of Oregon, Inc. The first of the two research illustrations involves the Dairy Hills windfarm, located near the towns of Covington, Perry, and Warsaw; all in Wyoming County, New York. The Dutch Hill project focuses on an area around the town of Cohocton in Steuben County, New York.

In both cases, DeLacy's contracted work is submitted as a Technical Memorandum and Appendix to the EIS connected with the respective windfarm proposals, and his methodological approach remains consistent. They are included in this review of literature for two reasons: (1) they have been involved in numerous assessments of the property value impacts of windfarms; and (2) their approach focuses on assessing property value impacts in sparsely populated and rural areas. Rural and sparsely populated areas are not amenable to the preferred statistical methodologies involving regression analysis, which in turn require a very large volume of property transactions for their proper use.

The methodological approach involves four dimensions of information gathering and analysis: (1) Review of the dominant literature pertaining to the property value impacts of windfarms and wind turbines, with particular emphasis on identifying and applying aspects of that literature with strongest bearing and utility for the study at hand; (2) Review of the numerous Technical Memoranda conducted by both their own firm and by other firms, with emphasis on defining commonalities between and among the findings pertaining to sites most similar to the study at hand; (3) a thorough analysis of local property transactions within the windfarm viewshed going back at least two or three years; onsite inspections of all properties bought and sold; collection and analysis of building permits, construction patterns, and land sales and leasing patterns occurring over several recent years within the siting area; and (4) demographic profiling of the area's population, labor force and employment, industry base, and general economic conditions.

9. Economic Impacts of the Hatchet Ridge Wind Project. Prepared for Hatchet Ridge Wind, LLC, a subsidiary of RES Americas Inc. 700 SW Taylor St. Suite 210, Portland, OR 97205. Prepared by Economics Group of ENTRIX, Inc., 12009 N.E. 99th Street, Suite 1410, Vancouver, WA 98682-2497, November 5, 2007.

A recent windfarm development is underway in the rural portion of eastern Shasta County, California. Early scoping documents do not include a systematic or empirical review of either actual property sales transactions or surveys of local real estate professionals and assessors. The project is nonetheless included in this review because of its location in a sparsely settled rural area of the northwest is similar to that of the China Mountain area.

To date, the approach taken by ENTRIX has been exploratory, relying heavily on insights to be gained from a thorough literature review, coupled with ongoing appreciation of the conflicting pressures on local property values obtained from community input and field inspection.

The Project would be sited entirely on private lands that are currently in timber production. The value of these lands would be influenced by the reduction in timber production (downward pressure) and long-term lease revenues (upward pressure). It is likely that the net effect of these offsetting factors is positive.

For properties located in proximity to the proposed wind energy development, the two key issues are visual and noise impacts. Noise impacts have been cited as a concern with wind projects generally, but noise effects are generally limited to properties with turbines, whose property values typically increase as a result of long-term revenue streams from leases. In the context of visual impacts, assuming scenic values are incorporated or "internalized" into the existing value of properties in the Project area, there is the potential for downward pressure on property values if wind facilities are perceived to adversely affect the quality of viewshed, it being recognized that some find the view of wind turbines to be appealing There is likely greater internalization of scenic values on residential properties compared to undeveloped land in agricultural uses, such as grazing.

Conversely, they note, there are also sources of potential upward pressures on nearby property values emanating from wind energy developments. First, these projects offer both short- and long-term economic benefits in the region, including job and income creation, as well as future economic development opportunities associated with expanded infrastructure and a new power source. Second, wind developments may boost tourism to the area, thereby promoting regional economic development. Finally, the Project would provide long-term revenue streams as lease payments to property owners on whose land the Project facilities would be located. In summary, there appear to be conflicting pressures on property values from wind energy developments. The manner in which these pressures would interact for the Hatchet Ridge Project is unknown, and data are not sufficient to quantify the property value effects of the proposed Project

The ENTRIX team currently poses two key questions in their effort to better understand the effect of this wind energy project on Shasta County property values: (1) To what degree have scenic values been internalized in local residential property values? (2) How would the Project affect the scenic quality of the area?

10. Hoen, Ben, Ryan Wiser, et al., "The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis," Lawrence Berkeley National Laboratory, Berkeley, CA, December 2009.

Following completion of his M.A. thesis in 2006, Ben Hoen joined Ryan Wiser at the Lawrence Berkeley National Laboratory to continue investigating the existence and composition of property value effects surrounding wind energy facilities in the United States. The authors have refined Hoen's 2006 hedonic regression model and extended their research to 10 communities surrounding 24 windfarm sites in nine states. The wind farms represented 13% of the existing wind generating capacity of the U.S. in 2005. They created ten hedonic models that measure the individual contribution of specific housing characteristics to property values. This is the most comprehensive and data-rich study of the effects of wind projects on residential property values done to date.

Their method utilized field visits to each of 7,459 homes experiencing a property transaction over the last 10 years, testing for the three effects of area stigma, scenic vista stigma, and nuisance stigma. They examined the effect of repeat home sales and looked for effects on home sales volumes. Homes ranged from 800 feet to over five miles from projects. They tested for the quality of the scenic vista and for the

degree to which wind turbines were visible. They even tested for the orientation of the house toward the wind project. Their extended research found no effect on transaction value for the three types of stigma defined in the study. Here are their conclusions:

> "Although each of the analysis techniques used in this report has strengths and weaknesses, the results are strongly consistent in that each model fails to uncover conclusive evidence of the presence of any of the three property value stigmas. Based on the data and analysis presented in this report, no evidence is found that home prices surrounding wind facilities are consistently, measurably, and significantly affected by either the view of wind facilities or the distance from the home to those facilities. Although the analysis cannot dismiss the possibility that individual or small numbers of homes have been or could be negatively impacted, if these impacts do exist, they are either too small and/or too infrequent to result in any widespread and consistent statistically observable impact. Moreover, to the degree that homes in the present sample are similar to homes in other areas where wind development is occurring, the results herein are expected to be transferable."

Literature on Economic Impacts of Wind Projects

While several of the above studies, such as Hatchet Ridge, include estimates of economic impacts, the following articles are reviewed for the information they offer about the economic impacts of wind projects and the wind power industry.

11. "Economic Impacts of Wind Energy Projects in Southeast Washington," Prepared for Southeast Washington Economic Development Association. Prepared by Economics Group of ENTRIX, Inc., 12009 N.E. 99th Street, Suite 1410, Vancouver, WA 98682-2497, March 6, 2009.

    This report by the Entrix team looked at three wind projects totaling 367 MW built in Columbia County near Dayton, Washington, with impacts examined in four counties in southeast Washington. They found that the projects generated a total of 189 jobs during construction, and 53 jobs during operations, including direct, indirect, and induced impacts. The report notes that rural Columbia County retained a small minority of the construction jobs with most going to the regional urban centers outside the county. Most operations employees do reside locally. The projects generated $4,837,000 in property taxes in 2008 for Columbia County taxing districts. Operations generated $3,081,000 in direct impacts, and $3,465,000 in total impacts annually.

    They found no data to support any impacts on property values, recreation, or community services coming from interviews with park, land, and infrastructure managers. Hunting continues in the area. Group tours of projects resulted in 600-800 visitors per year, with that number growing over time. The study concludes that while economic multipliers are low, the wind projects do confer benefits to the region and the degree to which benefits are captured locally depends on the proximity of the project to regional retail centers.

12. Grover, Stephen, "Economic Impacts of the Desert Claim Wind Project," Prepared for the enXco Company by ECONorthwest, 888 SW Fifty Avenue, Suite 1460, Portland, OR 97204, April 21, 2009.

This report analyzes a project in Kittitas County, Washington consisting of 95 turbines with a nameplate rating of 190 MW. The report confines itself to economic and fiscal impacts. The analysis relies heavily on secondary data, developing construction costs based on the DOE estimate of $1,920/kW cited in number 11 above, and run through the Jobs and Economic Development Impact (JEDI) cost model developed by the National Renewable Energy Laboratory (NREL). IMPLAN is then used to generate indirect and induced impacts. Construction of the project is estimated to create 282 jobs in total, with additional economic impact to the economy of $33 million. They estimate that 12 jobs will be created directly for operations, for a total of 36 jobs with indirect and induced impacts. Rental payments to private landowners for 40 MW are estimated to generate $600,000 per year in lease payments, and they estimate 76% of this will be spent locally using historical household spending patterns as the guide. Their estimate of $1,832,846 in annual fiscal impacts includes lease payments for turbines on state land and estimated impacts to state coffers.

13. Goldberg, Marshall, The Jobs and Economic Development Impact Model (JEDI), National Renewable Energy Laboratory (NREL), Golden, Colorado, http://www.nrel.gov/analysis/jedi

The JEDI model was developed in 2006 to calculate the economic impacts associated with wind power development. It relies on IMPLAN state coefficients to develop indirect and induced impacts. These coefficients are aggregated into 14 sectors of the economy. The direct impacts are inferred from a few simple parameters of the project, using default expenditure patterns taken from past wind power projects, and local purchase shares derived from past projects and reviewed by wind developers. The model is comprehensive in estimating financing costs and fiscal impacts as well. These default values can be overridden where better local information is available. As the model has been improved from a growing data base of actual wind projects, it is moving toward its objective of becoming a benchmark technique for easily estimating economic impacts.

14. Torgerson, Melissa, Bruce Sorte, and Tim Nam, "Umatilla County's Economic Structure and the Economic Impacts of Wind energy Development: an Input-Output Analysis," Special Report 1067, Oregon State University Extension Service, March 2006.

This study analyzed the economy of Umatilla County in northeastern Oregon. However, its real contribution was to compare several approaches to estimating the economic impacts of a hypothetical 50 MW wind project. They used the JEDI model calibrated to State of Oregon regional purchase coefficients (RPCs), the JEDI model calibrated to Umatilla County with IMPLAN RPCs, a version of IMPLAN with local RPCs edited to reflect local conditions, and an "optimized" IMPLAN model that looked to a future economy more poised to capture the spending of the wind industry. The last model was an attempt to address the weakness IMPLAN has with its fixed technology assumptions, and to demonstrate the benefits that could occur in a county trying to capitalize on wind investments. As expected, the JEDI model with state coefficients had higher impact estimates because more spending is captured in the state's economy than in the small rural region. The edited IMPLAN and the JEDI

model with local IMPLAN coefficients performed similarly. The authors encourage users to adapt either of these off-the-shelf models with as much local knowledge of the economy and of the project specifics as possible.

15. Ayee, Gloria, Marcy Lowe, and Gary Gereffi, *Manufacturing Climate solutions: Carbon-Reducing Technologies and U.S. Jobs*, Chapter 11: "Wind Power: Generating Electricity and Employment," Center on Globalization, Governance, and Competitiveness, Duke University, September 22, 2009, www.cggc.duke.edu/environment/climatesolutions

This study provides a good overview of the development of the wind power industry. It provides a detailed analysis of the supply chain for wind turbine manufacturing, the engineering and materials issues for improving wind technology, the firms involved in turbine manufacture, component manufacture, turbine transport, project development, and project operations and maintenance. Examples are given of older manufacturing firms adapting facilities to wind turbine component manufacturing. It notes that every 100 MW of installed wind power capacity provides 310 manufacturing sector jobs, 67 contracting and installation jobs, and 9.5 permanent jobs in O & M.

16. Wiser, Ryan, and Mark Bollinger, 2010 Wind Technologies Market Report, U.S. Department of Energy, May 2011.

This report is the latest in a series put out by the U.S. Department of Energy and staff from the national laboratories. It provides a concise summary of the status of the U.S. wind energy industry. Nevada wind installation to date was not listed. The study notes the increasing size of wind turbines with the average size installed in 2010 being 1.79 MW. The proportion of turbine components sourced domestically continues to grow and was an estimated 60% in 2009-10. The capacity-weighted price of wind power sales for projects built in 2010 was $73 per Mwh, though the market remains very fragmented, due to varying state renewable portfolio standards (RPS). This price is expected to fall in the near future due to lower turbine prices. The study also tracks individual wind project costs and reports industry averages. The average cost of projects installed in 2010 was $2,155/kW, and the average cost of proposed projects likely to be built in 2011 is expected to fall. Wind turbine prices have swung sharply from a sellers' market in 2008 to a buyers' market in 2010 due to an overcapacity of U.S. turbine nacelle assembly capability. Turbine prices have fallen 33% or more since late 2008, with an average decline of 20% for orders announced in 2010. O&M costs were observed to rise over time on a given project as components age and need replacement, and capacity-weighted costs of a sample of projects constructed since 2000 was $10/MWh. Wind integration costs into power systems are consistently below 10% and often below 5%. Federal financial incentives have created a favorable and certain policy environment and, combined with lower turbine costs, are expected to cause growth in project construction over the next two years.

Literature on Impacts of High Voltage Transmission Lines

The literature on property values and high voltage transmission lines (HVTL) is more extensive than that for wind energy projects. Two recent articles do a good job of summarizing the findings.

17. Elliott, Peter, and David Wadley, "The Impact of Transmission Lines on Property Values: Coming to Terms with Stigma," *Property Management* (2002) 20 (2): 137-152.

This article does a good job of providing a conceptual framework for analyzing the effects of power lines by focusing on the notion of stigma. They propose three interests at play for this negative externality: health concerns for humans, animals and plants from electromagnetic fields, visual impacts, and noise concerns. They classify the literature into three types of studies:

- Case studies based on regression models;
- Appraisal or valuation-based case studies that use relatively small samples of properties, and
- Case study attitudinal surveys of perceived effects on property values.

The authors review ten regression studies and find negative impacts of 1-9 percent varying with proximity to the power line. Valuation studies are fraught with problems relating to small sample size and the difficulty of matching pairs of property for comparison. Attitudinal studies are generally considered to over-estimate the negative impacts due to the lack of market data and problems with objective presentation of facts to respondents. The authors note that feelings of the stigma associated with power lines can be changed with education. They suggest that communities understand and express more precisely the nature of their dissatisfaction, so that design and engineering changes can address the issues cost-effectively.

18. Pitts, Jennifer M., and Thomas O. Jackson, "Power Lines and Property Values Revisited," The Appraisal Journal, Fall, 2007, pp. 323-325.

This short note provides a useful summary of the literature:

> "When negative impacts are evident, studies report an average discount between 1% and 10% of property value. This diminution in value is attributable to the visual unattractiveness of the lines, potential health hazards, disturbing sounds, and safety concerns. These impacts diminish as distance from the line increases and disappear at a distance of 200 feet from the lines. Where views of the lines and towers are completely unobstructed, negative impacts can extend up to a quarter mile. … Value diminution attributable to tower line proximity is temporary and usually decreases over time, disappearing entirely in 4 to 10 years."

They note that residential lots adjacent to power lines will sell more quickly, but that higher priced homes are more sensitive to proximity. Negative effects on sales time show up more in times of slow property markets. The authors conclude that buyers' personal preferences toward power lines vary and are important to determining whether power lines are a nuisance and negative force on property prices.