
DOI-BLM-NV-S010-2010-0076-EA

**Overton Power District Power Line Right-of-Way
Environmental Assessment**

Clark County, Nevada

February, 2011

**U.S. Department of the Interior
Bureau of Land Management
Las Vegas Field Office
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1. PURPOSE AND NEED

1.0 Introduction

Title: Overton Power District Power Line Right-of-Way Environmental Assessment

EA Number: DOI-BLM-NV-S010-2010-0076-EA

Type of project: Overhead power line, and access road right-of-way

General location of proposal: Township 14 S., Range 65 E., Section 5, SE ¼ SW ¼, Section 8 NE¼NW¼.

Name and location of preparing office: Las Vegas Field Office

Case file number: N-87776

Applicant name: Overton Power District No. 5

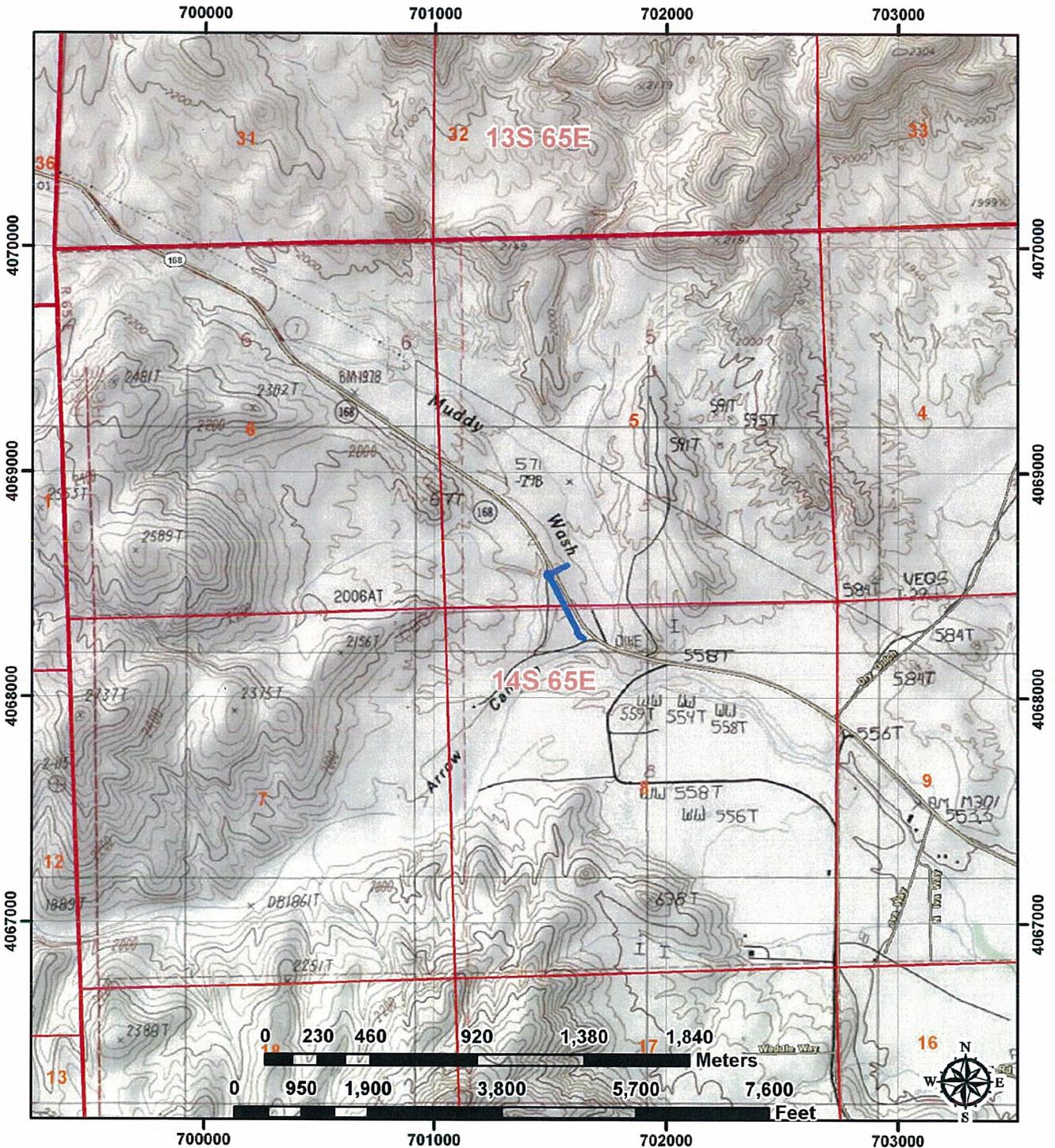
1.1 Project Description and Location

1.1.1 Description

Overton Power District No. 5 (Overton Power) has applied for a right-of-way (ROW) to construct, operate, and maintain an overhead power line on federal land administered by the U.S. Department of Interior Bureau of Land Management (BLM), Las Vegas Field Office (LVFO) (Figure 1-1). The Proposed Action would involve construction and installation of approximately 1,372 feet of 12.47-kilovolt (kV) overhead power lines and a new 14-foot-wide operation and maintenance road. Total surface area would include approximately 0.79 acres of permanent right-of-way on BLM-administered land in Clark County, Nevada.

The overhead power lines would connect with the existing 12.47 kV power line at Arrow Canyon Ranch Road, and would serve the proposed Southern Nevada Water Authority (SNWA) Arrow Canyon Conduit Energy Recovery Hydroturbine Project, which received a minor license for construction from the Federal Energy Regulatory Commission (FERC, Project 13569-001) on August 19, 2010. The facility will be located on approximately 1.7 acres of BLM-administered land just outside of the Nevada Department of Transportation's ROW for State Route (SR) 168, approximately 1,000 feet northeast of Arrow Canyon Ranch Road in Moapa, Clark County, Nevada. The proposed power line and operations/maintenance road would be located primarily on the south side of SR 168. The project is estimated to generate an average of 3,500,000 kilowatt-hours (kWh) annually.

The Proponent's purpose is to supply power to, and distribute power from the SNWA Hydroturbine Project, improving the environmental sustainability of the regional energy supply. SNWA has identified a goal of meeting 20 percent of its energy needs through renewable resources by 2015, which parallels the State of Nevada's Renewable Energy Portfolio Standards.



Base Maps: USGS 7.5' Moapa West(1984), Arrow Canyon(1986), Wildcat Wash SE(1972), and Farrier(1972)

KNIGHT LEAVITT ASSOCIATES
RESEARCH SERVICES

Overton Power District #5
Power Line Right-Of-Way
Project Area Map

Legend
ROW

Figure 1-1. Project Location

1.2 Purpose of and Need for Action

BLM's purpose of the project is to provide access for a transmission line across BLM lands. The BLM's need is to comply with Title V of the Federal Land Policy Management Act of October 21, 1976 (FLPMA) for a ROW grant to construct, operate, maintain, and terminate the proposed transmission line in accordance with FLPMA, and 43 C.F.R. Part 2800, and other applicable Federal laws. The need of the project is to provide transmission capability from the SNWA's Energy Recovery Hydroturbine Project to the power grid.

Decision to be Made: The BLM grants rights-of-way across federal lands in Clark County in accordance with the Federal Land Policy and Management Act of 1976, and the Southern Nevada Public Land Management Act. The BLM will decide whether or not to grant the requested right-of-way for the power line and access road and what stipulations should be applied to a right-of-way grant.

1.3 Connected Action

The proposed Southern Nevada Water Authority (SNWA) Arrow Canyon Energy Recovery Hydroturbine Project, to be located on BLM-administered land within the SNWA ROW, is a "connected action" to the proposed project.

Under the National Environmental Policy Act (NEPA), a Federal agency must consider "connected actions" in their analysis of the proposed action. Connected action means that the actions are closely related; and therefore, should be discussed in the same environmental document (40 CFR 1508.25 (a)(1)). Actions are connected if they:

- Automatically trigger other actions which require environmental clearance;
- Cannot or will not proceed unless other actions are taken previously or simultaneously; or
- Are interdependent parts of a larger action and depend on the larger action for their justification.

The BLM's issuance of a ROW for the construction, operation, maintenance, and termination of the transmission line, would allow electricity generated from the operation of the hydroturbine project (a federal action), to be transmitted to Overton Power District Number 5's transmission grid. The new SNWA facility consists of (1) a new 24-inch-diameter, 140-foot-long intake pipe, which connects to the existing 24-inch-diameter Coyote Spring Pipeline and leads to a proposed powerhouse enclosing a 500-kW Pelton turbine; (2) a new 24-inch diameter, 137-foot-long, tailrace pipe returning flow to the Coyote Spring Pipeline; (3) a 24-inch-diameter, 130-foot-long emergency overflow pipe, discharging to the drainage east of the powerhouse site; (4) a 0.1 acre natural impoundment area, in an existing depression east of the hydroturbine site; (5) a proposed 1,372-foot-long, a 12.47-kilovolt (kV) transmission line; and (6) a proposed 25-foot-wide, 255-foot-long access road. The granting of the BLM ROW is a connected action, because if the BLM ROW is not granted the SNWA's Energy Recovery Hydroturbine Project would not be constructed.

This document will address the non-federal connected action in the NEPA analysis (See Environmental Assessment for Hydropower License, Arrow Canyon Conduit Energy Recovery Hydroturbine Project, FERC Project No. 13569-001, BLM case file number N-86312.); however, the NEPA process is focused on agency decision-making [granting the ROW] (40 CFR

1500.1(c), 40 CFR 1508.18, 40 CFR 1508.23). The Federal agency (BLM) must at a minimum, ensure any decision made by the agency regarding the proposed action would not result in the violation of Federal laws or regulation (e.g. Endangered Species Act, National Historic Preservation Act, Clean Water Act, etc.).

1.4 Relationship to Statutes, Regulations, Plans, or Other Environmental Analyses

1.4.1 Conformance With Land Use Plan

The proposed facilities are located on lands administered by the Las Vegas Field Office. The document that directs management of BLM-administered lands within the project area is the *Las Vegas Resource Management Plan* (October 1998) (RMP). The RMP provides for land use guidance for development of mineral reserves, including siting of industrial facilities. The proposed project is in conformance with the RMP. The environmental analysis completed for this project will incorporate appropriate decisions, terms, and conditions of use described in the RMP decisions. The proposed action would also comply with all relevant federal, state, and local laws.

1.4.2 Authorizing Actions

The proposed federal, state, county, and local actions required to implement the Project are listed in Table 1-1.

Table 1-1. Federal, State, and County Authorizing Actions.

Action Requiring Permit, Approval, or Review	Responsible Agency	Permit or Approval	Statutory Reference
Federal			
Power line construction and operation on land under federal management	Bureau of Land Management (BLM)	Right-of-Way (ROW) Grant	Federal Land Policy Management Act of 1976 (FLPMA); Public Law (PL) 94-579
	BLM	Finding of No Significant Impact or Record of Decision	National Environmental Policy Act (NEPA); Council on Environmental Quality; 40 Code of Federal Regulation (CFR) Part 1500 et seq.
	U.S. Fish and Wildlife Service (FWS)	No Effect or Not Likely to Adversely Affect Determination	Endangered Species Act (ESA) Section 7
	BLM and State Historic Preservation Office	Section 106 Compliance	National Historic Preservation Act (NHPA) of 1966; 36 CFR part 800; 16 United States Code (USC) 47
State of Nevada			
Encroachment into State Highway ROW	Nevada Department of Transportation (NDOT)	ROW Occupancy Permit	
Transmission line crossing; of State Lands	NV State Land Board	Grant of Easement	
Use of State Highways for oversized vehicles	NDOT	Permit for Oversize, Overlength, and Overweight Loads	

1.5 Scoping, Public Involvement, and Issues

Internal BLM scoping was conducted to assess issues and concerns. No public comments were solicited for this proposed action. Issues identified were in the following resources:

- Air Quality
- Health and Safety
- Noxious Weeds and Invasive Species
- Noise
- Recreation
- Socioeconomics
- Soils
- Threatened, Endangered, Candidate, and Sensitive Animal and Plant Species
- Transportation
- Vegetation
- Visual Resources
- Water Quality and Prime or Sole Source of Drinking Water
- Wildlife

2. PROPOSED ACTION AND ALTERNATIVES

2.1 Alternative I – No Action

Under the No Action alternative, the power line and maintenance road would not be constructed. No new ground disturbance would occur, and no impacts to the existing physical or biological environment would take place as a result of this proposal.

Additionally, under the No Action Alternative, the absence of a power transmission line would prevent the SNWA's Energy Recovery Hydroturbine Project having the capability of transferring the generated renewable energy to the power grid, and the renewable energy project would not be built.

2.2 Alternative II – Proposed Action

The Proposed Action would include 1,372 feet of overhead 12.47 kV-capacity power line consisting of three 1/0 conductors, and one No. 2 neutral; six (6) power poles, down guys, and anchors; and a 14-foot-wide operation and maintenance road for year-round use. The proposed facilities would generally be constructed within a 25-foot-wide easement. However, approximately 145 feet of the operation and maintenance road would be rerouted to the east northeast to skirt the terrain in the vicinity of MpB-152.4 (Appendix A, Figure A-3).

The project would result in total temporary disturbance of 0.29 acres, and total permanent disturbance of 0.28 acres for a total disturbance of 0.57 acres within the 0.79 acre easement.

The design, construction, operation, and maintenance of the new transmission lines would meet or exceed the requirements of the National Electrical Safety Code (NESC), U.S. Department of Labor Occupational Safety and Health Standards, and Overton Power's requirements for safety and protection of landowners and their property. Engineering plans, drawings, and construction stipulations are currently being prepared by Overton Power.

The Proposed Action would provide the SNWA's proposed Energy Recovery Hydroturbine Project with the capability to transfer renewable energy to the power grid.

2.2.1 Design and Construction, 12.47-kV Structures

The proposed 12.47-kV distribution line structures would be a combination of wood H-frame and steel monopole design approximately 35 to 70 feet tall. Structures would be spaced approximately every 125 to 225 feet, depending on location, topography, final design, and safety requirements for conductor clearances and line loading (Appendix A, Figure A-2). Each pole would be designed to carry three electric cables and a ground wire on each side of the pole, extending out about 48 inches. Dead-end structures and angle poles would be supported using guy wires to meet standard safety codes. Where steel poles were used, there would not be a need for down-guys. Each steel structure would be painted in the color Desert Tan, Federal standard color #23617.

2.2.1.1 Construction

Overton Power would notify all adjacent landowners prior to the start of construction. No private property would be required for laydown areas, or for staging or storage of equipment. Overton Power would commence construction upon receipt of the BLM ROW grant and notice to

proceed, outside all seasonal wildlife timing restrictions. Construction would be expected to take approximately two days to complete, with one day for excavation and setting of poles, and one day for stringing of line and tie-in to the existing 12.47-kV line. Overton Power does not anticipate the need for subcontractors to complete any portion of the work. For each power pole, Overton Power would excavate a hole with a depth ranging from 5 feet 6 inches to 6 feet. Since poles would be set the same day, no holes would be left open overnight. The power lines would have a 50 feet by 50 feet per-pole temporary disturbance area. All equipment would be removed from the site at the end of each work day.

2.2.1.2 Structure Site Clearing

At each structure site, a leveled area (pad) would be needed to facilitate the safe operation of equipment such as construction cranes. The pad required for the location and safe operation of a large crane would be approximately 50 feet by 50 feet. The work area would be cleared of vegetation only to the extent necessary. After line construction, all pads would be graded to blend as closely as possible with the natural contours of the site and the disturbed area reseeded as necessary. The pads would be located along the operation and maintenance road and would therefore remain accessible for future maintenance activities.

2.2.1.3 Pulling and Tensioning Site Clearing

Conductor pulling sites would be located at approximately 600-foot increments along the assumed centerline of the project. The leveled areas required for the location and safe operation of stringing and tensioning equipment would be approximately 100 feet by 200 feet. The areas needed for the pulling sites would be approximately 150 feet by 400 feet. As with structure sites, the work areas would be cleared of vegetation only to the extent necessary. After line construction, these areas would be graded to blend as closely as possible with the natural contours of the site and revegetated where required.

Wherever practical, Overton Power would use existing disturbed areas for construction staging. Additional staging areas may be required on private lands, which would be coordinated by the contractor with the landowner in advance of construction.

2.2.1.4 Conductors

The 12.47-kV line would consist of a three-phase single-circuit 12.47-kV with an optical ground wire in the top position on each structure. Minimum conductor height above ground would be based on NESC and Overton Power standards. Conductors would be non-reflective.

2.2.1.5 Insulators and Associated Hardware

Angle and dead-end structures would have polymer insulators 12 inches long. One polymer insulator per phase would be used on all tangent structures, and up to three insulators per phase would be used on the dead-end and angle structures.

2.2.2 Design and Construction, Operation and Maintenance Road

A flagged survey would be established for the proposed 14-foot-wide operation and maintenance road. The location of the proposed road is shown in Appendix A, Figure A-1 Project Right-of-Way and Disturbance Map

Overton would plan to start construction soon after BLM and other required authorizations are obtained. Project construction is expected to take approximately 14 days. Overton would notify BLM five days prior to the anticipated start of construction and/ or surface-disturbing activities.

2.2.7 Applicant-Committed Practices

Hazardous Materials. Construction equipment would be powered by engines that use fuel and lubricants. Should there be an accidental spill, cleanup kits would be available on the construction vehicles and equipment for quick response to contain and clean up spills. Any soils or sediments affected by accidental spills would be dug up and properly disposed of at a permitted disposal facility. The sites would be kept free from any accumulations of trash and rubbish. Trash would be collected and properly disposed of off-site.

2.3 Alternatives Considered but not Analyzed in Detail

Overton investigated the option of providing service via the north side of SR 168. Due to existing natural terrain and the location of the SNWA pipeline in that area, an adequate easement was not attainable.

3. AFFECTED ENVIRONMENT

3.1 Introduction

The project area is located within Nevada's southeast desert region, which is characterized by relatively flat, sparsely vegetated desert terrain, punctuated by ridges and buttes (e.g., Mormon Mountains, Mormon Mesa) and traversed by washes (e.g., Muddy and Toquop Wash). Surrounding areas include higher elevations such as the Clover Mountains to the north, the Black Rock Mountains to the southeast, and the Mormon Range to the east.

Historical temperature records from 1971-2000 are available for Logandale at the Western Regional Climate Center (WRCC). Logandale is situated approximately 15.5 miles southeast of the project area. January is the coldest month, with a mean minimum temperature of 31°F. The hottest month is July with a mean maximum temperature of 105°F (WRCC, 2010).

The summers in the Mojave are long and hot and the winters short and mild. There is strong surface heating during the day and rapid nighttime cooling because of the dry air, resulting in wide daily ranges in temperature. Summer temperatures above 100° F occur rather frequently in the Mojave Desert. Long periods of extremely cold weather are rare, primarily because the mountains west and north of the state act as a barrier to the intensely cold continental arctic air masses. However, on occasion, a cold air mass spills over these barriers and produces prolonged cold waves.

Precipitation that could reach the Mojave Desert is lost in the western slopes of the Sierra Mountains in California, where the warm, moist air from the ocean cools and condenses in the form of precipitation, leaving the valleys to the east dry. Winter storms in the Mojave Desert occur generally from December through January, moving in from the northwest. During July to September, monsoonal flow from the southeast brings moisture into the Mojave and thunderstorms form as the air heats up during summer months.

The closest WRCC weather station to the project area with recorded precipitation data is Logandale. From 1971-2000, the average precipitation for Logandale was highest in February at 0.67 inches and lowest in June at 0.12 inches. The total average annual precipitation for Logandale from 1971-2000 was 5.39 inches. Mean snowfall for the period 1971-2000 was 0.58 inches; snow is quite rare for the Mojave Desert. Snow is heaviest in the higher-elevation mountains to the north.

Wind data reflect a predominantly southerly wind direction. Wind patterns do not change appreciably from season to season, although northeasterly winds are more prominent during the winter season. For all seasons occasional winds from the north northeast and south are associated with relatively calm wind speeds. Diurnal wind patterns reveal the strongest winds in the afternoon. The highest average wind speed occurs during the spring, with the lowest during fall and winter.

The proposed project is located in the creosote-bursage scrub vegetation zone that is typical of the Mojave Desert of southern Nevada. Vegetation in the project area is typical of the arid Mojave region, where precipitation and soil parent material are controlling factors for plant composition.

This section of the EA discusses environmental, social, and economic factors as they currently exist within the project area. The material presented here has been guided by management issues identified by the LVFO and by interdisciplinary field analysis of the area.

This proposal could potentially affect critical and non-critical elements of the human environment as listed in the BLM's National Environmental Policy Act (NEPA) Handbook H-1790-1. These elements and potential affects are discussed in Sections 3.2 through 3.14.

The following are not present and will not be further analyzed:

- Areas of Critical Environmental Concern (ACECs)
- BLM Natural Areas
- Environmental Justice
- Greenhouse Gas Emissions
- Prime or Unique Farmlands
- Floodplains
- Geology/Mineral Resources/Energy Production
- Livestock Grazing
- Native American Religious Concerns
- Paleontology
- Rangeland Health Standards
- Hazardous or Solid Waste
- Wetlands/Riparian Zones
- Wild and Scenic Rivers
- Wilderness/WSA
- Wild Horses and Burros
- Areas with Wilderness Characteristics

3.2 Air Quality

Since 1970, the Federal Clean Air Act (CAA) and subsequent amendments have provided the authority and framework for Environmental Protection Agency (EPA) regulation of air-emission sources. The EPA regulations promulgated pursuant to the authority provided in the CAA establish requirements for the monitoring, control, and documentation of activities that would affect ambient concentrations of certain pollutants that may endanger public health or welfare. In particular, these regulations have the overall objective of achieving and maintaining adherence to appropriate standards for ambient air quality.

The CAA established National Ambient Air Quality Standards (NAAQS), which historically have applied to six criteria pollutants—sulfur dioxide (SO₂), carbon monoxide (CO), nitrogen dioxide (NO₂), particulate matter (PM₁₀), ozone (O₃), and lead (Pb). These standards are defined in terms of threshold concentration (e.g., micrograms per cubic meter [µg/m³]) measured as an average for specified periods of time (averaging times). Short-term standards (i.e., 1-hour, 8-hour, or 24-hour averaging times) were established for pollutants with acute health effects; long-term standards (i.e., annual averaging times) were established for pollutants with chronic health effects. Recently, additional standards have been promulgated for 8-hour average O₃ concentrations and for 24-hour and annual PM_{2.5} concentrations. The NAAQS were set at levels to provide an ample margin of safety in protecting public health and the environment. Primary standards were adopted to protect public health, which includes "sensitive" populations, such as asthmatics, children, and the elderly. Secondary standards set limits that are intended to protect public welfare against decreased visibility as well as damage to animals, crops, vegetation, and buildings. See Table 3-1 for NAAQS limits.

Table 3-1. National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Carbon Monoxide	9 ppm (10 mg/m ³)	8-hour ⁽¹⁾	None	
	35 ppm (40 mg/m ³)	1-hour ⁽¹⁾		
Lead	0.15 µg/m ³ ⁽²⁾	Rolling 3-Month Average	Same as Primary	
	1.5 µg/m ³	Quarterly Average	Same as Primary	
Nitrogen Dioxide	53 ppb ⁽³⁾	Annual (Arithmetic Average)	Same as Primary	
	100 ppb	1-hour ⁽⁴⁾	None	
Particulate Matter (PM ₁₀)	150 µg/m ³	24-hour ⁽⁵⁾	Same as Primary	
Particulate Matter (PM _{2.5})	15.0 µg/m ³	Annual ⁽⁶⁾ (Arithmetic Average)	Same as Primary	
	35 µg/m ³	24-hour ⁽⁷⁾	Same as Primary	
Ozone	0.075 ppm (2008 std)	8-hour ⁽⁸⁾	Same as Primary	
	0.08 ppm (1997 std)	8-hour ⁽⁹⁾	Same as Primary	
	0.12 ppm	1-hour ⁽¹⁰⁾	Same as Primary	
Sulfur Dioxide	0.03 ppm	Annual (Arithmetic Average)	0.5 ppm	3-hour ⁽¹⁾
	0.14 ppm	24-hour ⁽¹⁾		
	75 ppb ⁽¹¹⁾	1-hour	None	

⁽¹⁾ Not to be exceeded more than once per year.

⁽²⁾ Final rule signed October 15, 2008.

⁽³⁾ The official level of the annual NO₂ standard is 0.053 ppm, equal to 53 ppb, which is shown here for the purpose of clearer comparison to the 1-hour standard

⁽⁴⁾ To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).

⁽⁵⁾ Not to be exceeded more than once per year on average over 3 years.

⁽⁶⁾ To attain this standard, the 3-year average of the weighted annual mean PM_{2.5} concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

⁽⁷⁾ To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).

⁽⁸⁾ To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)

⁽⁹⁾ (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(c) EPA is in the process of reconsidering these standards (set in March 2008).

⁽¹⁰⁾ (a) EPA revoked the 1-hour ozone standard in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is < 1.

⁽¹¹⁾ (a) Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

Source: U.S. EPA, <http://epa.gov/air/criteria.html>. Accessed August 3, 2010.

In Clark County, Nevada, the Department of Air Quality and Environmental Management (DAQEM) has been delegated the authority, under the provisions of Nevada Revised Statute 445B.500 and by direction of the Clark County Board of County Commissioners, to implement and enforce an air pollution control program. DAQEM applies and enforces the Air Quality Regulations, which establish requirements for sources who emit or release air contaminants into the atmosphere through standards set by the EPA.

The EPA has provided a scale called the Air Quality Index (AQI) for rating air quality. This scale is based on the NAAQS and is described in the Code of Federal Regulations, Part 58, Appendix G. Measured air pollutants in the Clark County region include: carbon monoxide (CO), ozone (O₃), and particulate matter less than 10 microns and 2.5 microns in effective diameter (PM₁₀ and PM_{2.5}). There is one regional air monitoring station to the north of project area in Mesquite which is managed by Clark County.

3.3 Health and Safety

Existing health and safety concerns in the transmission line project area include occupational hazards associated with transmission line construction and maintenance. Other hazards could include the risk associated with vehicular travel on SR-168 and access roads, and the potential for range fires.

3.4 Noxious Weeds and Invasive Species

Disturbance associated with construction activities dramatically increases the potential for invasive plants to become established to levels where they may ultimately threaten native plant populations. Furthermore, many weedy species greatly increase the potential for fire in areas not well-adapted to fire activity. Noxious weeds and other invasive plants have the potential to alter the habitats in which they occur.

No species of Nevada state listed noxious weeds (Table 3-2) occur in the project area, although invasive weeds were observed. Of these, Russian thistle (*Salsola tragus*), and African mustard (*Malcolmia africana*) pose a particular threat to the area as both grow aggressively in disturbed habitats. One specimen of salt cedar (*Tamarix ramosissima*), a State of Nevada, Category C noxious weed, was noted near the project area adjacent to SR-168. A Noxious Weed Report is available for review at the BLM LVFO.

Table 3-2. State of Nevada: Noxious Weed List

Common Name	Scientific Name
Category A Weeds: Weeds not found or limited in distribution throughout the state; actively excluded from the state and actively eradicated wherever found; actively eradicated from nursery stock dealer premises; control required by the state in all infestations.	
African Rue	<i>Peganum harmala</i>
Austrian fieldcress	<i>Rorippa austriaca</i>
Austrian peaweed	<i>Sphaerophysa salsula</i> / <i>Swainsona salsula</i>
Black henbane	<i>Hyoscyamus niger</i>
Camelthorn	<i>Alhagi camelorum</i>
Common crupina	<i>Crupina vulgaris</i>
Dalmatian Toadflax	<i>Linaria dalmatica</i>

Table 3-2. State of Nevada: Noxious Weed List

Common Name	Scientific Name
Dyer's woad	<i>Isatis tinctoria</i>
Eurasian water-milfoil	<i>Myriophyllum spicatum</i>
Giant Reed	<i>Arundo donax</i>
Giant Salvinia	<i>Salvinia molesta</i>
Goats rue	<i>Galega officinalis</i>
Green Fountain grass	<i>Pennisetum setaceum</i>
Houndstongue	<i>Cynoglossum officinale</i>
Hydrilla	<i>Hydrilla verticillata</i>
Iberian Starthistle	<i>Centaurea iberica</i>
Klamath weed	<i>Hypericum perforatum</i>
Malta Star thistle	<i>Centaurea melitensis</i>
Mayweed chamomile	<i>Anthemis cotula</i>
Mediterranean sage	<i>Salvia aethiopsis</i>
Purple loosestrife	<i>Lythrum salicaria, L.virgatum and their cultivars</i>
Purple Star thistle	<i>Centaurea calcitrapa</i>
Rush skeletonweed	<i>Chondrilla juncea</i>
Sow Thistle	<i>Sonchus arvensis</i>
Spotted Knapweed	<i>Centaurea masculosa</i>
Squarrose knapweed	<i>Centaurea virgata</i>
Sulfur cinquefoil	<i>Potentilla recta</i>
Syrian Bean Caper	<i>Zygophyllum fabago</i>
Yellow Starthistle	<i>Centaurea solstitialis</i>
Yellow Toadflax	<i>Linaria vulgaris</i>
Category B Weeds: Weeds established in scattered populations in some counties of the state; actively excluded where possible, actively eradicated from nursery stock dealer premises; control required by the state in areas where populations are not well established or previously unknown to occur.	
Carolina Horse-nettle	<i>Solanum carolinense</i>
Diffuse Knapweed	<i>Centaurea diffusa</i>
Leafy spurge	<i>Euphorbia esula</i>
Medusahead	<i>Taeniatherum caput-medusae</i>
Musk Thistle	<i>Carduus nutans</i>
Russian Knapweed	<i>Acroptilon repens</i>
Sahara Mustard	<i>Brassica tournefortii</i>
Scotch Thistle	<i>Onopordum acanthium</i>
White Horse-nettle	<i>Solanum elaeagnifolium</i>
Category C Weeds: Weeds currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; abatement at the discretion of the state quarantine officer.	
Canada Thistle	<i>Cirsium arvense</i>
Hoary cress	<i>Cardaria draba</i>
Johnson grass	<i>Sorghum halepense</i>
Perennial pepperweed	<i>Lepidium latifolium</i>
Poison Hemlock	<i>Conium maculatum</i>

Table 3-2. State of Nevada: Noxious Weed List

Common Name	Scientific Name
Puncture vine	<i>Tribulus terrestris</i>
Salt cedar (tamarisk)	<i>Tamarix spp</i>
Water Hemlock	<i>Cicuta maculata</i>

3.5 Noise

Currently, vehicle traffic on SR-168, jet aircraft overflights at high altitudes, and localized vehicular traffic on unimproved roads create modest and transitory sound disturbances within and in the immediate vicinity of the project area.

3.6 Recreation

Recreational use of public and private lands within the project area and associated hydro turbine facility is limited to dispersed activities; there are no developed recreation facilities within the project area. The nearest undeveloped recreation area is Arrow Canyon Wilderness. Arrow Canyon Wilderness is a 27,530-acre wilderness area located in Clark County, Nevada south of SR-168. It received wilderness designation with the passage of the Clark County Conservation of Public Land and Natural Resources Act of 2002 and protects the northern portion of the Arrow Canyon Range. Recreational uses in the Arrow Canyon Wilderness include rock hounding, day hiking, camping, backpacking, horseback riding, and rock climbing. The Arrow Canyon Wilderness access road intersects the project area at the south end of the project area off of SR-168.

The nearest developed recreation area is the Warm Springs Nevada L.D.S. Recreational Facility. The facility was open only to Latter-day Saints Church Members, until it was badly damaged in a wildfire on July 1, 2010 and has since been closed indefinitely. The facility consisted of two pools, campgrounds, fields, streams, and limited RV parking. The other attractions to the area were two warm-spring pools.

3.7 Socioeconomics

The area of potential socioeconomic impact from the proposed power line project and associated hydro turbine facility is the unincorporated community of Moapa in Clark County, Nevada. The 0.79 acre project site is located approximately 8 miles northwest of the community of Moapa on SR-168.

Population estimates by Clark County for 2009 placed the unincorporated community of Moapa, including the Moapa Paiute Reservation, at 1,292 residents. Of the 1,292 residents, 211 were categorized under special places and groups (Clark County, 2009). Housing in Moapa consists of single family housing, duplex, 3/4-plex, and mobile homes with a total of 357 housing units.

Per capita income in Moapa is \$20,183 while the median household income is \$66,435. An estimated 21.33% of the population earns a household income between \$50,000 and \$75,000 per year, which is the greatest percentage of the population. Occupations held by the residents of Moapa consist of business management, professional and related occupations, service and sales, farming, fishing, forestry, construction, production and transportation. The greatest

percentage of the population works in professional and related occupations (Sperling's Best Places to Live and Retire, 2010).

3.8 Soils

Soils of the project area are primarily composed of the Tonopah, very gravelly sandy loam with 4 to 15 percent slopes as mapped by the Natural Resources Conservation Service (NRCS) September 25, 2009 (NRCS, 2010). Tonopah soils consist of very deep, excessively to well-drained soils that formed in mixed alluvium and are remnants of alluvial fans or fan piedmonts. Tonopah soils are composed of 0 to 6 inches of very gravelly sandy loam at the surface and extremely gravelly sand from 6 to 60 inches. The primary vegetation noted on these soils was creosote (*Larrea tridentata*) and white bursage (*Ambrosia dumosa*). A weakly developed gravel pavement was noted on the soil surface.

Soils of the wash area in the southern quarter of the project area were visually different than those of the terraces and were likely composed of Gila loam, strongly saline soils. These well-drained, floodplain soils are likewise composed of alluvium derived from mixed sources and have a soil surface of 0 to 9 inches of loam and 9 to 60 inches of stratified fine sandy loam to silt loam. These soils are described as being moderately to strongly saline. The primary vegetation noted on these soils was fourwing saltbush (*Atriplex canescens*).

Slopes between the terraces and floodplain are fairly steep (closer to 15 percent than 4 percent) and are composed of mixed rock and gravel. These contain low densities of small shrubs dominated by creosote, white bursage, and scattered cacti and Mojave yucca (*Yucca schidigera*). The rocky, pavement-like surface of the flat terrace sections protects the slopes from excessive erosion during all but the most severe flooding events. The desert pavement surface also protects from soil loss due to wind erosion from winds which average ± 10 mph (WRCC, 2010) and may exceed 50 mph during storms.

3.9 Threatened, Endangered, Candidate, and Sensitive Animal and Plant Species

Threatened, Endangered, and Sensitive Animal Species

A list of threatened, endangered or sensitive species that may occur in the project area was obtained from the Nevada Natural Heritage Program (NNHP) in response to a request of July 23, 2010. No endangered species were listed for the project area. The list included the threatened Mojave Desert tortoise (*Gopherus agassizii*) and the sensitive species; Townsend's big-eared bat (*Corynorhinus townsendii*), the hoary bat (*Lasiurus cinereus*), and the California leaf-nosed bat (*Macrotus californicus*). The Bureau of Land Management (BLM) Affected Resources Form (March 14, 2010) also listed the western burrowing owl (*Athene cunicularia*) as well as migratory birds in general, as potential species of concern for the project (see Table 3-3).

Mojave Desert Tortoise

The desert tortoise inhabits washes, slopes, and hilltops in the Mojave Desert. It prefers creosote-bursage communities, but may also be found in Joshua tree or blackbrush communities up to approximately 5,000 feet in elevation. Much of the proposed project area is located in suitable desert tortoise habitat, but no tortoises or tortoise sign were observed during a survey of proposed roads, work areas, and the surrounding washes and slopes. However, the

possibility exists that a desert tortoise could travel onto the proposed project site, especially if water is introduced during active tortoise season which is generally March through October.

Bat Species

Bats generally require caves, trees, or structures for habitation. No such habitat was observed within the project area. While bats may pass through to access the nearby permanent water source (Warm Springs) or potentially feed on insects within the area, it is not suitable habitat for long-term occupation by bats.

Western Burrowing Owl and Migratory Birds

Burrowing owls occupy abandoned dens or burrows created by various mammals or desert tortoises. Their habitat requirements in the Mojave Desert generally coincide with the desert tortoise. No burrows or burrowing owl sign were observed during a survey of the project area.

The Migratory Bird Treaty Act prohibits disturbing or possessing most wild bird species, including raptor species. Examples of raptor species include the bald and golden eagle (*Haliaeetus leucocephalus* and *Aquila chrysaetos*) or peregrine falcon (*Falco peregrinus*). This protection extends to active nests and eggs of those species. Various ground-nesting and raptor species common to the Mojave Desert are of particular concern in the project area. While no signs of long-term habitation by birds were discovered during the survey, it is possible that migratory birds could be nesting in the project area during the breeding season (generally March-July).

Proposed Threatened or Sensitive Animal Species that may be found within the project area are shown in Table 3-3. Federal categories of protected animals include the U.S. Fish and Wildlife Service (USFWS) category Listed Endangered or Threatened (LE and LT), Candidate (C), Species of Concern (SOC) (Federal Register 61(40): 1997), the BLM Sensitive Species (BLM 1997) and Forest Service designated sensitive species by region (Region 4 - Humboldt-Toiyabe National Forest) or Region 4 and 5 Endangered (E). The State of Nevada protects animals listed under NRS 501.

Table 3-3. Proposed Threatened or Sensitive Animal Species for Project Area.

Species of Concern	Federal Status			State Status
	FWS	BLM	FS	NV
Reptiles				
<i>Gopherus agassizii</i> (Mojave Desert Tortoise)	LT	Sensitive	T	yes
Birds				
<i>Athene cunicularia</i> (Western Burrowing Owl)	N/A	Sensitive	N/A	yes
Mammals				
<i>Corynorhinus townsendii</i> (Townsend's big-eared bat)	N/A	Sensitive	Sensitive	yes
<i>Lasiurus cinereus</i> (Hoary bat)	N/A	Sensitive	N/A	no
<i>Macrotus californicus</i> (California leaf-nosed bat)	N/A	Sensitive	N/A	yes

Threatened and Endangered and Sensitive Plant Species

No threatened and endangered or sensitive plant species were identified or are known to occur in the project area. Further, the habitat noted in the project area and general vicinity is not consistent with known rare plant species in the region. No sensitive plant species are expected to be affected by the proposed project.

Cacti and Yuccas

All cacti and yucca species are protected under Nevada Revised Statutes 527.060-.120 (State of Nevada, 2007). In all six species of cacti and one yucca consisting of 22 individuals were located in the project ROW. Eight of these were located in proposed areas of disturbance. Cactus species observed included silver cholla (*Cylindropuntia echinocarpa*), cottontop (*Echinocactus polycephalus*), strawberry hedgehog (*Echinocereus engelmannii*), California barrel cactus (*Ferocactus cylindraceus*), beavertail pricklypear (*Opuntia basilaris*), and grizzly bear pricklypear (*Opuntia polyacantha* var. *erinacea*). The project area was also habitat for pygmy barrel cactus (*Echinomastus johnsonii*) and fishhook cactus (*Mammillaria tetrandra*), although these were not observed. Mojave yucca (*Yucca schidigera*) was the only yucca observed.

Cacti and yuccas were primarily observed on or near the slopes and within the smaller washes. They were generally absent on desert pavement and in the saltbush habitat of the Pahrangat Wash.

3.10 Transportation

The regional transportation system serving the project area includes an established system of interstate and state highways. Local traffic on public land within and near the project area is currently served by unimproved roads, used primarily by recreationists and utility companies.

Access to the project area is provided by the primary roadway, SR-168 to Moapa, which intersects the project area as a paved two-lane highway, connecting Interstate 15 (I-15) on the east with US-93 on the west in Coyote Springs. The proposed access to the project would be located approximately 10 miles west of I-15 and approximately 12 miles east of Coyote Springs.

Annual average daily traffic (AADT) for roads in the area is provided in Table 3-4. The primary roads, SR-168 and I-15 interchanges have maintained a generally consistent to a slightly decreased AADT count since 2008 (NDOT, 2010).

Table 3-4. Highway Access to Project Site.

Station	Route / Location	2008 AADT	2009 AADT
0030157	SR168, Glendale-Moapa Rd, .2 mi N of SR-168 (Glendale-Moapa Rd)	2,200	2,000
0030158	SR168, Glendale-Moapa Rd, .2 mi W of the frontage road at Glendale 'Exit 90'	2,700	2,400
0030160	IR15, S/B on-ramp of the Moapa Intch 'Exit 90'	610	530
0030161	IR15, N/B off-ramp of the Glendale Intch 'Exit 91'	30	30
0030163	IR15, N/B on-ramp of the Glendale Intch 'Exit 91'	880	870
0030165	SR168, Glendale-Moapa Rd, 200' S of the Glendale Intch 'Exit 91' cross traffic road	950	940
0030166	IR15, S/B off-ramp of the Glendale Intch 'Exit 91'	940	910

3.11 Vegetation

The project area lies entirely within the Mojave Desert and consists of Creosote Bush and Saltbush Community Types (Bradley and Deacon, 1965). The majority of the project area lies on a natural terrace above the Pahranaagat and Muddy Washes. On the terraces, the terrain is relatively flat, covered by desert pavement, and composed of creosote-bursage scrub. Ratany species (*Krameria grayi* and *K. erecta*), Fremont indigobush (*Psorothamnus fremontii*), and Nevada ephedra (*Ephedra nevadensis*) are also represented. Approximately one-quarter of the project area lies in the floodplain of the Pahranaagat Wash, downstream from Arrow Canyon. This area is in saltbush habitat composed primarily of fourwing saltbush (*Atriplex canescens*), scattered creosote and Mojave seablight (*Suaeda moquinii*). The non-native Mediterranean grass (*Schismus sp.*) was common to abundant on the soil surface in this area.

East of the project area is the Muddy Wash which joins with the Pahranaagat Wash outside of the southeast corner of the project area. Several smaller unnamed washes, which drain into the Pahranaagat and Muddy washes, lie along the periphery of the project area. Portions of the slopes of these washes lie within the project area. These are generally rocky and contain low-density creosote-bursage scrub with scattered cacti and Mojave Yucca. Cacti and yucca species observed in the project area were primarily located on or adjacent to the slopes of the washes. A botanical report is available for review at the BLM LVFO.

3.12 Visual Resources

The visual characteristics of the project area are typical of the low-lying Mojave Desert, characterized by creosote bush, low-growing perennial shrubs, and gently rolling slopes dissected by dry washes. Evidence of cultural modification is limited to dirt roads, power transmission lines, and underground utilities such as water pipelines. The project area is visible from SR-168.

The BLM has classified lands within the project area based on Visual Resource Management (VRM) objectives. The intent of the BLM's VRM program is to preserve scenic values in concert with resource development. The project area has been assigned a Class II VRM designation. The BLM VRM manual (USDI-BLM, 1980) describes the objective for Class II VRM lands as follows:

"The objective of Class II areas is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape."

The viewsheds within the project area were analyzed to identify the viewers that travel through or live within these areas and which level of sensitivity each type of viewer may have for landscape change. SR-168 is the local transportation route between small communities in which most viewers would see the overhead transmission line. Key observation points (KOPs) were then selected to represent the average experience of traveling through the landscape and the scenery associated with each location or view corridor. Several factors were analyzed to guide the selection of KOPs to evaluate the impacts of project activities in terms of landscape change and contrast with the surroundings, including type of users, amount of use, public interest, and sensitivity of each viewer type. Five different KOPs were selected near or along the highway to represent where most viewers would observe the transmission line. The KOPs were

photographed and analyzed from simulations to determine whether the proposed project would meet the Class II VRM objectives.

3.13 Water Quality and Prime or Sole Source of Drinking Water

There are two washes near the proposed transmission line: the Arrow Canyon Wash (formed from the Pahranaagat Wash) on the south side of SR-168 and the Muddy Wash on the north side of the highway. The nearest perennial water source to the project site is the springs of the Upper Muddy River, approximately 1.5 miles to the southeast.

The Moapa Valley Water District (MVWD) was established on July 22, 1983, with the combining of the respective water systems and assets of the Moapa Valley Water Company with the Overton Water District. The service area of the MVWD covers some 79 square miles of unincorporated areas and several rural communities with less than 6,000 persons each and includes the Moapa, Glendale, Logandale, and Overton areas. The MVWD is currently served from four source water sites: the MX-6 Well, the two Arrow Canyon Wells, Baldwin Springs, and Jones Springs. Each supply source generally provides dedicated service to a geographic area and a certain number of customers (Nevada Division of Environmental Protection, 2009).

The U.S. Geological Service (USGS) manages data on two particular wells near the project area. The first is located west of the project near Sawmill Road and SR-168. This well has a ground water level of 353 feet depth below land surface and is situated at an elevation of 1,818 feet above mean sea level (USGS, 2010). Another well managed by USGS is an aquifer completed in unconsolidated deposits at 50 feet below the land surface near Isola and Henry Drive in Moapa, east of the project area. Groundwater levels at this aquifer can be found at 26 feet below land surface (USGS, 2010).

3.14 Wildlife

General Wildlife

Animal observations were made during a survey conducted within the proposed project area to determine the presence or absence of species of concern. Wildlife species in the proposed project area are primarily small mammals, rodents, common reptiles, and birds. Animals observed were common lizard species including the western whiptail lizard (*Cnemidophorus tigris*), side-blotched lizard (*Uta stansburiana*), and zebra-tail lizard (*Callisaurus draconoides*); a black-tail jackrabbit (*Lepus californicus*); and a mourning dove (*Zenaida macroura*). Gambel's quail (*Callipepla gambelii*) were also heard nearby.

3.15 Cultural

To comply with Section 106 of the National Historic Preservation Act (NHPA), the BLM Archaeologist conducted an existing data review of the area of potential effect (APE) according to 36 CFR 800.4. The APE was previously evaluated and results are detailed in BLM Cultural Resource reports 5-473, 5-829, 5-1384, 5-1475, 5-2170; Nevada Dept. of Transportation (NDOT) reports NDOT-032-84R, NDOT-101-85P; and Harry Reid Center (HRC) reports 5-131-1, 5-147-1.

4. ENVIRONMENTAL EFFECTS

This section provides an analysis of the potential environmental consequences that would result from implementation of the Proposed Action (federal land development of a power line and access road) and No Action (denial of federal land development-power line construction and access road) in the project area. Measures that would avoid or reduce impacts under the Proposed Action have been included in Sections 2.2.1.2 *Structure Site Clearing* and 2.2.1.3 *Pulling and Tensioning Site Clearing*. The following impact assessment takes these measures into consideration. Additional opportunities to mitigate impacts beyond the measures proposed in Chapter 2 are presented in Chapter 4 under Mitigation Summary for each resource.

4.1 Direct and Indirect Effects

4.1.1 Air Quality

Alternative I- No Action

Under the No Action Alternative, the power line would not be constructed and no additional impacts to air quality resources would occur beyond the existing levels.

Alternative II-Proposed Action

Air-pollutant emissions would occur from the Proposed Action during construction of the transmission line and associated access road, and these emissions would impact air quality in the project area. The primary pollutants emitted would be particulate matter less than 10 microns in diameter (PM₁₀), nitrogen oxides (NO_x), and carbon monoxide (CO). The airborne pollutants would be the result of emissions from equipment and vehicles and from dust raised by construction activity. These emissions would be short-term and localized in nature, and would consist primarily of particulate (PM₁₀) emissions.

No violations of applicable state or federal air quality regulations or standards would be expected to occur as a result of direct or indirect project air-pollutant emissions from power line activity (including both construction and operation) at the project area. Effects on local air quality would be expected to be low as a result of the proposed power line.

4.1.2 Health and Safety

Alternative I-No Action

Implementation of the No Action alternative would not affect health and safety conditions in the project area.

Alternative II-Proposed Action

Health and safety risks associated with the Proposed Action would include occupational hazards associated with access road and power line transmission construction, maintenance and operations; risk associated with vehicular travel to and from the site and on the access road; and wildland fires.

Occupational Hazards. The primary hazards associated with the construction phase of the distribution line and access road would be to the work force and be typical for this type of construction activity. These activities include: operating and working around heavy equipment

and specialized construction vehicles, handling heavy materials manually and with the use of specialized equipment, and working above ground either in a bucket on a boom or with the use of climbing spikes. Given the relatively few construction workers associated with the Proposed Action and the relatively short duration of the project, the statistical probability of an accident would be low.

Other Risks and Hazards. Potential effects to public and worker safety would primarily result from travel to and from the site via SR-168. The use of heavy, slow-moving equipment such as line trucks, pole trucks, backhoes, etc. may present brief safety risks during travel on SR-168 and on the project site, which crosses this highway, and at the intersection of SR-168 and Arrow Canyon Ranch Road. These risks are common to vehicular travel and would not be greatly increased during the short duration of construction activity on the proposed project.

The risk of range fire in the project area would increase under the Proposed Action. This would be an unavoidable impact associated with construction activities. The potential for a wildfire to result from project activities would be low. Actions in the project area during the Proposed Action would comply with local and federal fire restrictions. Given the limited public use and presence along the proposed power line and access road route, the risk to the public would be minimal. There would be a small increase in risk to area fire-suppression personnel associated with the Proposed Action.

4.1.3 Noxious Weeds and Invasive Species

Alternative I – No Action

Implementation of the No Action alternative would have no effect on noxious and invasive species conditions within the project area.

Alternative II – Proposed Action

Surface-disturbing activities would include the construction and operation of a 1,372-foot access road producing 0.28 acres of long-term new disturbance. Additionally, no more than 0.29 acres would be temporarily disturbed within the proposed ROW during construction to install six power poles and for pulling and tensioning sites. The total amount of disturbance equals 0.57 acres. This disturbance would increase the potential for invasive and noxious weeds to invade or increase in number within the project area and vicinity.

Noxious weeds on the State of Nevada noxious weed list do not occupy the project area, but other non-native species including Russian thistle, African mustard, Mediterranean grass, and red brome (*Bromus rubens*) do pose a threat in the area. The invasive weed species noted in and adjacent to the project area are among those commonly encountered in the region. All are well established in Southern Nevada. Within the 0.79 acres of project area, 0.57 acres of permanent and temporary disturbance is unlikely to high increase to the overall amount of disturbance in the region. Care needs to be taken, however, not to provide a location, or vector, through which potential new and harmful species might be introduced or spread. Increased populations of non-native grasses such as red brome increase the wildfire potential to structures and the native ecosystem. Implementation of the proposed Weed Management Plan (see Appendix B - Weed Management Plan), and restoration of all temporary disturbance areas as stipulated by the BLM (see BLM, 2001) would reduce or avoid impacts from noxious or invasive weeds.

4.1.4 Noise

Alternative I-No Action

Under the No Action alternative, access to the proposed power line site using federal surface proposed by Overton Power would be denied, and existing noise levels within the project area would remain the same.

Alternative II-Proposed Action

Noise effects during construction would be temporary and would be generated from vehicular traffic and construction equipment. Noise associated with the power line construction activities can create disturbances that affect human comfort and modify animal behavior. Perception of sound varies with intensity and pitch of the source, air density, humidity, wind direction, screening/focusing by topography or vegetation, and distance to the observer. Noise levels in excess of the 55 dBA maximum standards can occur at the power line construction site and where road and power transmission line maintenance occurs.

Noise produced by construction of the proposed distribution line would be experienced briefly by travelers through the area on SR-168 or Arrow Canyon Ranch Road. The nearest residence to the project site is approximately 0.33 miles away and is isolated. These residents, and any animals they may own, may experience low levels of temporary disturbance associated with sounds produced at this distance. Brief periods of high noise levels may also affect wildlife movement near the work site. Noise-producing activities would be limited to daylight hours for the 2-week construction phase of the project. These occurrences would be temporary, and consequently, noise impacts associated with the Proposed Action would likely be low. Long-term effects on existing noise characteristics of the area would not be expected.

4.1.5 Recreation

Alternative I-No Action

The No Action alternative would create no impact on recreational use of the proposed project area or surrounding areas.

Alternative II-Proposed Action

The primary recreational use of the proposed project area that may be affected by construction of the proposed distribution line is access to the Arrow Canyon Wilderness, approximately 2 miles to the south, via Arrow Canyon Ranch Road. The 1,372-foot power line would begin adjacent to Arrow Canyon Ranch Road, near its intersection with SR-168 and run northwest, roughly parallel to SR-168, and eventually cross SR-168 to terminate on the northeast side.

The Proposed Project would not utilize the Arrow Canyon Road. The Arrow Canyon Road would not be closed during construction of this Proposed Project.

4.1.6 Socioeconomics

Alternative I-No Action

Implementation of the No Action alternative would have no effect on socioeconomic conditions within the project area.

Alternative II-Proposed Action

The project would provide power to, and distribute power from the proposed SNWA Hydroturbine Project, improving the environmental sustainability of the regional energy supply. Effects to rural lifestyle are expected to be minor as there are already existing overhead utilities near this site. Due to the small size and short duration of the proposed construction activity, as well as its primary work force consisting of employed residents of the area, effects on the socioeconomic status of the Moapa Valley would likely be minimal. Construction of the overhead transmission line would be accomplished by a primarily local work force which has long-term employment. Considering this, as well as the small size and short duration of construction, impact to the socioeconomics of the area would likely be low.

4.1.7 Soils

Alternative I – No Action

Implementation of the No Action alternative would have no effect on soil conditions within the project area.

Alternative II – Proposed Action

Within the 0.79 acres of the easement, 0.57 acres of permanent and temporary disturbance may occur by construction and maintenance of the 1,372 foot transmission line. The direct and ultimately indirect impacts to the soils of the project area and vicinity would primarily include disruption of the vegetation and soil surface which inhibit soil erosion due to characteristic water and wind events. This is especially significant in the gravely, sandy loam soils of the Tonopah series in which a rocky to desert pavement surface is well developed and protects adjacent slopes from major erosion under normal conditions.

Although the overall surface area to be affected is relatively small, proximity to steep slopes and natural washes increases the potential for indirect impacts due to erosion. To minimize the potential impacts, disturbance would not be permitted within a predetermined distance from the edge of the slopes. This buffer would prevent surface disturbance from taking place where the potential for erosion would be highest and would insure that the natural contours of the project area are maintained. As designed, the access road follows the level sections of the project area and avoids steeper terrain. In order to avoid the steeper terrain, the access road is situated outside of the proposed ROW at two locations for distances of ± 110 and ± 50 feet. No access roads are designed on the slopes. Where access to the slopes is required, as with installation of guy wires, the slopes would be restored to their natural contour and surface covering. With careful planning and implementation of construction mitigation proposed below in Section 4.3.4 *Soils*, the impacts of additional disturbance would be minimized.

4.1.8 Threatened, Endangered, Candidate, and Sensitive Animal and Plant Species

Alternative I-No Action

Implementing the No Action alternative would ensure that no threatened, endangered, candidate, or sensitive species, or their habitat would be harmed.

Alternative II-Proposed Action

The proposed project would disturb approximately 0.57 acres, of which 0.28 acres would be permanently disturbed by the creation of an access road. The area is located on BLM land, within a portion of a Nevada Department of Transportation (NDOT) material site (BLM Affected Resources Form). Due to the small size and duration of the project, minor effects on threatened, endangered, candidate, or sensitive animals and plants would be expected as a result of the power line. No live desert tortoise, burrowing owl, or bat species were observed during a survey of the area and adjacent habitat. Neither was any sign of occupation by these species observed. Also, no threatened, endangered or sensitive species of plants were found, nor habitat to support them. There would be minor effects to state protected cactus species.

Threatened, Endangered, and Sensitive Animal Species

Mojave Desert Tortoise. The project and surrounding areas have been described as having very low to low densities of desert tortoise (BLM Affected Resources Form). It is possible for a desert tortoise to travel onto, or through, the project area, although the Proposed Action is expected to have no impact on desert tortoises because no sign of tortoise habitation was observed during the survey. Due to low tortoise population density, the 0.79-acre size of the proposed ROW, and the 2-week duration of habitat-disturbing activity the probability of impact on desert tortoise in the area is low. Potential impacts to the Mojave desert tortoise from the Proposed Action are outlined below.

Direct impacts to the desert tortoise would be the risk of death or injury during construction and future use of the site. Death or injury would result if a tortoise is run over by a piece of heavy equipment or service vehicle during construction (or during commutes to and from the project). In order for this form of 'take' to occur, the tortoise and vehicle must occupy the same place at the same time. Tortoises could also take refuge under parked vehicles during construction activities, and be killed or injured when the vehicle or heavy equipment is moved. Any open excavations on the project could become a trap for tortoises resulting in mortality or injury. There would be some permanent loss of habitat and higher potential of tortoise presence from the surrounding areas.

Indirect impacts to the desert tortoise would be the risk of death, injury or collection of any tortoise populations inhabiting the surrounding area during the construction period and future use of the site. For example, roads to and from the project provide vectors for habitat invasion by weedy plant species resulting in degradation of habitat. It is documented that desert tortoise habitat exists in the surrounding desert. It is possible that tortoises may wander onto the project area during construction of the facilities and future use of the area. Injuries or losses of desert tortoises may also result from accidental human encounters, collection of tortoises for pets, encounters with domestic pets, increased off-road travel (motorized and bicycle), and accidental encounters with maintenance workers and activities in the area.

There is also a slight potential for an increase in the number of predatory and scavenger species due to the presence of humans and illegal trash dumping, which already occurs in the project vicinity. It is well documented that species such as coyotes and ravens have adapted well to exploiting human encroachment on their traditional habitat. These animals can thrive off of a diet of garbage and domestic pets. As a result, an upward trend of predatory species may impact hatchlings or sub-adult Mojave desert tortoises within the vicinity of the project.

Bat Species. The sensitive bat species listed by NNHP generally require caves, trees or structures for habitation. No such habitat was observed within the project area. While bats may pass through to access the nearby permanent water source (Warm Springs) or may potentially feed on insects within the area, no suitable habitat was found for long-term occupation by bats. Therefore, the Proposed Action is expected to have no impact on bats in the area as a result of the proposed distribution line.

Western Burrowing Owl. Burrowing owls are a BLM sensitive species known to occupy abandoned dens or burrows created by various mammals or desert tortoises. Their habitat requirements in the Mojave Desert generally coincide with the desert tortoise. No burrows or burrowing owl sign were observed during a survey of the project area. Burrowing owls could potentially nest in the project area during the appropriate season which usually occurs between March 15 and July 30 (BLM Affected Resources Form). Potential effects should be minimized by scheduling ground-disturbing activities outside these dates. The Proposed Action is not expected to impact burrowing owls, however some minor habitat loss is expected.

Migratory Birds. The Migratory Bird Treaty Act prohibits disturbing or possessing most wild bird species, including various raptor species that could reside in the area. This protection extends to active nests and eggs of those species. Various ground-nesting species and raptors common to the Mojave Desert are of particular concern in the project area. While no signs of long-term habitation by birds were discovered during the survey, it is recommended that disturbance-creating activity on the project be conducted outside of bird breeding season, generally March 15 - July 30 (BLM Affected Resource Form). Any necessary travel or construction-related activities during this period should be preceded by a pre-construction survey by a qualified biologist to determine if active nests are present. If nests are located, appropriate buffer zones must be created and avoided. In addition to surveys and planning construction activities outside the bird nesting season, the use of perch deterrents on structures would protect various raptor species which have a tendency to nest in poles, towers, and other structures. All transmission poles would be designed to be avian-safe in accordance with the *Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006* (Avian Power Line Interaction Committee (APLIC), 2006).

Threatened and Endangered and Sensitive Plant Species

As no threatened and endangered or sensitive plant species or potential habitat occurs in the project, no impacts to threatened, endangered, candidate, or sensitive plant species are anticipated by the Proposed Action.

Cacti and Yuccas. Twenty-two individuals from six species of cacti and one species of yucca occur within the project ROW, with eight specimens occurring in proposed areas of disturbance. Potentially, eight plants may need to be relocated which would be done once prior to ground disturbing activities (see Mitigation Measures Section 4.3.5 *Threatened, Endangered, Candidate, and Sensitive Animal and Plant Species*). Direct or indirect impacts could result in the loss of any to all of these plants as well as no more than 0.79 acres of potential cactus and

yucca habitat. The sale and transportation of cacti and yuccas are regulated by Nevada State law. This would include the moving of cactus and yuccas out of harm's way, and minimizing the total area disturbed to the absolute minimum area needed to complete the job safely and as designed. Cactus and yuccas are considered government property and are regulated under the Nevada BLM forestry program. All cactus and yuccas within permanent and temporary impact areas must be salvaged and replanted in temporary impact areas or undisturbed portions of the project area. Unless otherwise directed by the BLM botanist, all replanted cactus and yuccas must be watered and otherwise maintained for a period of one year. To ensure successful salvage and transplant, all cactus and yuccas must be salvaged using an individual or contractor approved by the BLM botanist.

4.1.9 Transportation

Alternative I-No Action

The No Action alternative would result in no effect on transportation in the proposed project area.

Alternative II-Proposed Action

The effects from the proposed project on transportation in the proposed project area would be limited and short-term. The increase the volume of traffic on SR-168, the primary travel route in the area, would likely be low. However construction of a distribution line requires the use of some slow-moving heavy equipment and vehicles; pole trucks, line trucks, auger trucks, graders, backhoes, etc. It is possible that slow travel to and from, or turning of these vehicles within, the project site may temporarily inconvenience some local travelers on SR-168 during the construction phase, but would be minimized with construction traffic control measures. No long-term impact on transportation in the area would be expected.

4.1.10 Vegetation

Alternative I – No Action

Implementation of the No Action alternative would have no effect on vegetation within the project area.

Alternative II – Proposed Action

Although the ROW for the Proposed Action is 0.79 acres in size, the project footprint would actually be considerably smaller than this due to existing disturbances in the proposed ROW. Previous disturbances within the proposed ROW include SR-168, a road materials stockpile site, an unnamed road connecting SR-168 to the Arrow Canyon Ranch Road, and minor off-road vehicle use. The proposed permanent and temporary disturbance would be 0.57 acres, which includes the road, pad sites, pulling/tensioning sites and existing disturbance. The majority of this disturbance would be within creosote-bursage scrub on level topography with a desert pavement surface. The remainder would be in saltbush habitat consisting of fourwing saltbush and non-native grasses.

It is unlikely the Proposed Action would increase public use in or around the project area. The proposed access roads for this project would be disjunct and relatively short in length. Likewise, the Proposed Action area is presently surrounded by existing roadways or disturbances on all

sides. To minimize impacts, all temporarily disturbed areas would be restored upon completion of construction using guidelines in the Restoration Plan for Energy Projects in the Las Vegas Field Office Bureau of Land Management. With completion of required reclamation and revegetation measures, there would be no long term effects to vegetation.

4.1.11 Visual Resources

Alternative I-No Action

Implementing the No Action alternative would not impact the visual resources of the proposed project area.

Alternative II-Proposed Action

The majority of the proposed project site is composed of the creosote-bursage vegetative community which is common in the Mojave Desert. Approximately 25% is located in saltbush vegetation typical of washes and valley floors. The landforms in view are flat terraces and mesas with gentle to steep side hills at their edges, rolling hills, and sharp ridgelines. Visible human impacts include; a two-lane paved highway, gravel side-roads, power transmission lines with poles, the scar of a recently-installed underground pipeline (N-76493), and residential buildings set back from the highway.

The transmission line, power poles, and the associated access road would be visible to travelers on SR-168. The power line and poles would be an extension of, and similar in appearance to, an existing power line. The access road would be visible, primarily, to east-bound travelers. Much of this portion of the proposed road would be on existing disturbance from an un-named road, remnants of a gravel stockpile once used by NDOT, and the scar of a recently-installed underground pipeline (N-76493). Due to these existing visible disturbances in the area, effects of the proposed project would not exceed the BLM VRM Class II designation described in Section 3.12 *Visual Resources*.

4.1.12 Water Quality and Prime or Sole Source of Drinking Water

Alternative I-No Action

Use of the No Action alternative would result in no change to existing surface or groundwater conditions in the project area.

Alternative II-Proposed Action

The project would not affect groundwater and would have a minor temporary effect on surface water quality associated with construction. The project would not affect any stream or other body of water. The nearest perennial water source to the project site are the springs of the Upper Muddy River, approximately 1.5 miles to the southeast. Ground disturbance of the proposed project would be limited to a 14-foot-wide by 1,372-foot-long access road and 6 localized poles and associated anchor sites. The road is designed to avoid the primary slope located on the site and to maintain a significant distance from existing natural washes, thus minimizing effects on soil erosion which might have any impact on surface or groundwater quality. The pole and anchor sites would be located on relatively level ground and be confined to the least disturbance necessary to successfully complete the work. Excavation at pole and anchor sites would be less than 10-foot-deep. The disturbance created by these small work

sites and associated overland travel would likely have a low impact on existing leaching or runoff conditions in the area.

4.1.13 Wildlife

Alternative I-No Action

Implementation of the No Action alternative would result in no effect on wildlife in the proposed project area.

Alternative II-Proposed Action

Existing wildlife in the area are common rodents and other small mammals, reptiles, and birds. Potential effects to these animals would result from clearing and overland vehicular travel. Ground-dwelling animals may be unearthed or crushed or a rodent or reptile may occasionally dart into the path of a vehicle. Ground-clearing activities and overland travel would create the potential for some individuals of these species to be displaced, injured, or killed during construction of the proposed distribution line. The slow travel of vehicles on the project site, the small size of the ROW (0.79 acres) and the short duration of construction activity (2 weeks) would reduce the possibility of these occurrences. The effect to area wildlife would likely be minimal from project-related activities. No long-term direct or indirect effects on animals in the area would be likely to occur due to project-related activities.

4.1.14 Cultural

No historic properties were identified within the APE; no further evaluation is required unless the scope of the undertaking changes. As proposed, the undertaking will have no effect to historic properties.

4.2 Cumulative Effects

Past, present and foreseeable future projects in the geographic and temporal scope of the proposed project could additionally contribute effects to the resources outlined above. Table 4.1 below outlines these projects and their proximity to the proposed project.

Table 4-1. Projects With Potential Cumulative Impacts to the Proposed Project.

Project Name	Proponent	Proximity to Proposed Project
Coyote Spring Well and Moapa Transmission System Project	SNWA	Completed. Pipeline would tie into Arrow Canyon Conduit Energy Recovery Hydroturbine Project
Nevada Department of Transportation (NDOT) Material Site	NDOT	Existing. Northwest end of proposed project right-of-way overlaps with it
Arrow Canyon Conduit Energy Recovery Hydroturbine Project(2010)	SNWA	Foreseeable action. Associated with proposed project.
Coyote Springs Development	Resource Concepts Inc.	Not completed. Proposed project is 12 miles east of Coyote Springs Development

Source: Knight and Leavitt Associates Inc., 2010 and Personal Communication with Phil Rhinehart, Bureau of Land Management

4.2.1 Air Quality

No violations of applicable state or federal air quality regulations or standards would be expected to occur as a result of direct or indirect project air-pollutant emissions from power line activity (including both construction and operation) at the project area. Cumulative impacts to air quality within the proposed project are expected to be minimal, because no construction would occur once the power line is built. There would likely be minor contributions to air emissions related to the future operation of the associated hydroturbine facility. Other projects within the vicinity of the proposed project would have some temporary impacts to air quality from construction, particularly when the NDOT material pit is being utilized. Activities such as the material pit and disturbances from the construction of the Coyote Spring Well and Moapa Transmission System Project have contributed to gas and particulate matter dispersion in the area. There could be occasional emissions of gases and particulate matter from maintenance vehicles in the area once construction of the power line and hydroturbine facility is complete.

4.2.2 Health and Safety

Cumulative risks to public health and safety would likely be low. There would be some minor health and safety effects due to construction work and travel to the project area during construction. Access to the hydroturbine facility would be restricted, limiting the health and safety risks associated with the overall project to primarily employees and contractors, rather than the public. There would be a slight risk of the recreating public utilizing the access road along the proposed power line for off-highway vehicle use, dumping, and shooting. These types of activities would increase risks associated with public health and safety or increase the risk for range fires. There would be a slightly increased risk to the area fire-suppression personnel from range fires associated with the recreating public.

4.2.3 Invasive Species and Noxious Weeds

Although the proposed power line project would be only 0.79 acres in size, there is always the potential for spread of invasive/noxious weeds in the area. Successful implementation of the reclamation and weed eradication and monitoring program described below (see Mitigation Measures Section 4.3.3 *Noxious Weeds and Invasive Species*) would reduce potential for introduction and spread of noxious and invasive species. Other projects in the vicinity, such as the Coyote Spring Well and Moapa Transmission System Project and NDOT Material Pit have already created disturbances where noxious and invasive weeds can become established, increasing the risk for spread of noxious/invasive weeds into the proposed project and associated hydroturbine facility. Mitigation measures to prevent the spread of noxious/invasive weeds would minimize cumulative effects to habitat in the proposed project area.

4.2.4 Noise

The proposed power line and associated hydroturbine facility would generate cumulative minor noise impacts during the construction and operations phases of the project. Noise impacts would accrue primarily to employees, contractors and potentially local residents who reside within 0.33 miles of the project area. The absence of sensitive locations near the project site and the restriction of construction activities to daylight hours for specified periods of time would minimize noise impacts.

4.2.5 Recreation

Cumulative impacts to recreation resources are expected to be minimal due to the low use of the proposed project area and availability of other recreation resources in the area. Any impacts on recreational uses of the area are expected to be minor and temporary.

4.2.6 Socioeconomics

Socioeconomic conditions in the area could be cumulatively affected by past, present, and future projects that contribute to the economy, increase employment (temporarily or permanently), increase the demand for public services, and/or change tax revenue. Existing and future utility development such as the Coyote Spring Well and Moapa Transmission System Project, road improvements and residential developments, such as the Coyote Springs Development, would cumulatively contribute to increased population, supply and demand on housing and employment, and increased taxes and revenues to governments. Local communities would experience the economic impacts of more consumption of local goods and services, and increased sales tax revenues.

4.2.7 Soils

Per the Environmental Assessment for the SNWA 's Hydropower License: Arrow Canyon Conduit Energy Recovery Hydroturbine Project (FERC Project No. 13569-001), during construction of the hydroturbine facility, SNWA will reduce potential erosion by using a diffuser or other energy dissipater to discharge hydrostatic testing water and using straw bales (certified weed free) and small earthwork impoundments to contain the flow. SNWA will also restrict or curtail construction activities during heavy rain or high wind conditions. During operations of the hydroturbine facility, an erosion control structure will be built at the discharge end of the overflow pipeline so that maintenance or emergency discharges would not cause erosion of the soils. The rip-rap structure will be about 200 square feet to dissipate flow. Implementation of the proposed erosion control measures will result in minor effect to geologic or soils during the emergency overflows and maintenance discharges. [3.3.1.2 Environmental Effects – Geology and Soils in FERC Project No. 13569-001].

The proposed Overton Power transmission line would tie into the hydroturbine facility on the north side of SR-168 where access is from the existing SNWA Coyote Spring Well and Moapa Transmission System Project. SNWA recently installed the Coyote Spring project on the north side of SR-168, which created soil disturbance that has been reclaimed, but contributes to the cumulative impacts on soils in the area.

The proposed transmission line would also be located within a portion of an NDOT materials site (Serial # NVN-08673). The NDOT materials pit has contributed to cumulative impacts on soils because much of the soil has been excavated or covered with stockpiled materials for highway-related projects. Although the main portion of the materials site is 0.1 miles northeast of the ROW, evidence of previous gravel stockpiles and surface grading are present in the ROW. No stockpiles are located in the ROW at the present time.

Additional existing ground disturbances near the project area include minor off-road vehicle use resulting in occasional tracks leading into the ROW from existing roadways. It is unlikely the Proposed Action would increase public use in or around the project area because access roads for the Proposed Action are disjunct and relatively short in length. Likewise, the proposed area is surrounded by existing roadways or disturbances on all sides. With complete plan of

development and implementation of construction mitigation proposed in Section 2.2.1.2 *Structure Site Clearing*, the impacts of additional disturbance would be minimized.

4.2.8 Threatened, Endangered, Candidate, and Sensitive Animal and Plant Species

Threatened, Endangered, and Sensitive Animal Species

Other impacts or activities in the immediate area currently include recreation, utility development for power and water resources, highways, and residential development. The proposed Coyote Springs residential development is located 12 miles west of the project area. Coyote Springs has the potential to become a large residential development, which could result in increased traffic and further development in Moapa Valley, contributing to cumulative impacts to wildlife.

Desert Tortoise. Minor cumulative impacts would be expected for the desert tortoise as a result of this project due to the project size and duration. While desert tortoise habitat can be found in the project area, no live tortoises or burrows were discovered during a survey. Other activities in the area have had potential impacts on desert tortoises due to mortality, injury, harassment, or loss of habitat, but following mitigation measures relevant to this species could minimize these cumulative impacts (see Appendix C - Proposed Minimization Measures for Desert Tortoise or Its Habitat). Potential direct and indirect impacts to the desert tortoise from construction activity and future activities are outlined below.

Direct impacts to the desert tortoise would include the risk of death or injury during construction and future use of the site. Death or injury would result if a tortoise were run over by a piece of heavy equipment or service vehicle during construction (or during commutes to and from the project). In order for this form of 'take' to occur, the tortoise and vehicle must occupy the same place at the same time. Tortoises could also take refuge under parked vehicles during construction activities, and be killed or injured when the vehicle or heavy equipment is moved. Any open excavations on the project could become a trap for tortoises resulting in mortality or injury. There would be some permanent loss of habitat and higher potential of tortoise presence from the surrounding areas.

Indirect impacts to the desert tortoise would be the risk of death, injury, or collection of any tortoise populations inhabiting the surrounding area during the construction period and future use of the site. For example, roads to and from the project provide vectors for habitat invasion by weedy plant species resulting in degradation of habitat. It is documented that desert tortoise habitat exists in the surrounding desert. It is possible that tortoises may wander onto the project area during construction of the facilities and future use of the area. Injuries or losses of desert tortoises may also result from accidental human encounters, collection of tortoises for pets, encounters with domestic pets, increased off-road travel (motorized and bicycle), and accidental encounters with maintenance workers and activities in the area.

There is also a slight potential for an increase in the number of predatory and scavenger species due to the presence of humans and illegal trash dumping, which already occurs in the project vicinity. It is well-documented that species such as coyotes and ravens have adapted well to exploiting human encroachment on their traditional habitat. These animals can thrive off of a diet of garbage and domestic pets. As a result, an upward trend of predatory species may impact hatchlings or sub-adult Mojave desert tortoises within the vicinity of the project.

Per the Environmental Assessment for the SNWA 's Hydropower License: Arrow Canyon Conduit Energy Recovery Hydroturbine Project (FERC Project No. 13569-001), during

construction of the hydroturbine facility, SNWA will follow the Programmatic Biological Opinion for Multiple Use Activities issue by the U.S. Fish and Wildlife Service to the BLM, thus reducing the potential effects to the desert tortoise. [See 3.3.3.2 Environmental Effects – Rare, Threatened and Endangered Species in FERC Project No. 13569-001 for these stipulations].

Bat Species. Cumulative impacts should not directly affect bat species since the lack of habitat to support bats within the project area precludes their occurrence. The proposed project lacks water and caves or other roosting structures to support bats. Other projects in the area are also highly unlikely to have cumulative impacts on bat species.

Western Burrowing Owls and Migratory Birds. Habitat exists in the project and surrounding areas to support western burrowing owls and Migratory Birds, including large raptor species. The proposed project may contribute to some minor loss of foraging and nesting habitat for these bird species. However, the seasonal timing stipulations and abundance of suitable habitat in adjacent areas should help to minimize these impacts. In addition, the use of perch deterrents on structures would prevent various raptor species from nesting and roosting in poles, towers, and other structures. All transmission structures should be designed to be avian-safe in accordance with the *Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006* (Avian Power Line Interaction Committee (APLIC, 2006). Cumulative impacts to birds from the proposed project and future actions would include loss of foraging and nesting habitat.

Per the Environmental Assessment for the SNWA's Hydropower License: Arrow Canyon Conduit Energy Recovery Hydroturbine Project (FERC Project No. 13569-001), during construction of the hydroturbine facility, SNWA will survey for nesting birds between March 15 and August 15 while the project is being built, thus reducing the potential effects to migratory birds. [3.3.3.2 Environmental Effects – Wildlife Resources in FERC Project No. 13569-001].

Threatened and Endangered and Sensitive Plant Species

Cumulative impacts may affect threatened, endangered, and sensitive plant species if they occur within areas to be disturbed. Currently no protected plants species are known to be present within the area or adjacent lands. The impacts to threatened, endangered and sensitive plant species should be minor due to the relatively small amount of disturbance proposed.

Cacti and Yuccas. Cumulative impacts to cacti and yucca could result in the loss of any to all of these plants as well as no more than 0.79 acres of potential cactus and yucca habitat. Measures would need to be taken to avoid harming these plants. This would include moving cactus out of harm's way, and minimizing the total area disturbed to the absolute minimum area needed to complete the job safely and as designed (see Mitigation Section 4.3.5 *Threatened, Endangered, Candidate, and Sensitive Animal and Plant Species*).

Cumulative impacts to cacti and yucca have also been minimized for other projects in the area by following salvage, transplant and restoration guidelines. Cacti and yucca have been salvaged from nearby projects, including the SNWA Coyote Spring Well and Moapa Transmission System project and the NDOT material site to the northeast. A salvage yard for cacti and yuccas was noted 0.4 miles east of the Arrow Canyon Ranch Road, presumably from the Coyote Spring project. Several plants have been replanted within the pipeline ROW as part of the restoration for that project. Additional impacts to cacti and yuccas can also be expected from construction

of the SNWA hydroelectric facility for which the transmission line is needed and these impacts can be minimized by adhering to a restoration plan specific to the project.

Per the Environmental Assessment for the SNWA's Hydropower License: Arrow Canyon Conduit Energy Recovery Hydroturbine Project (FERC Project No. 13569-001), before construction of the hydroturbine facility, SNWA will salvage cacti and transplant them within the Coyote Spring pipeline ROW, thus reducing the potential effects to cacti and yuccas. [3.3.3.2 Environmental Effects – Botanical Resources in FERC Project No. 13569-001].

4.2.9 Transportation

Cumulative effects on transportation would likely be minor during construction and operation of the proposed power line and hydroturbine facility. Equipment would be moved to the area and remain there during construction of the power line and hydroturbine facility. Materials, equipment and supply deliveries, coupled with employee commutes would contribute to some minor traffic in the area. Future development of residential areas and utilities in the area could also contribute to increased traffic. Impacts of traffic on health and human safety are discussed in Section 4.2.2 *Health and Safety*.

4.2.10 Vegetation

The project area lies entirely within the Creosote Bush and Saltbush Community Types (Bradley and Deacon, 1965). Approximately one-quarter of the project area lies in the floodplain of the Pahranaagat Wash, downstream from Arrow Canyon. This area is in saltbush habitat composed primarily of fourwing saltbush (*Atriplex canescens*), scattered creosote and Mojave seabligh (*Suaeda moquinii*). With completion of required reclamation and revegetation measures there would be no long-term cumulative impacts to vegetation.

4.2.11 Visual Resources

Cumulative visual impacts would include modifications to the visual character of the landscape resulting from access road, power line, and hydroturbine facility construction and operation. Currently, visible human impacts include: a two-lane paved highway, gravel side-roads, power transmission lines with poles, the scar of a recently-installed underground pipeline, and residential buildings set back from the highway. The addition of the power line and associated hydroturbine facility would increase foreground visual impacts for travelers on SR-168. These impacts would be lessened by mitigation measures identified above in Section 2.2.1 *Air Quality*, but would be evident for as long as the road and transmission line remain. The modifications would comply with BLM VRM Class II objectives; therefore, these impacts would likely be low.

Per the Environmental Assessment for the SNWA's Hydropower License: Arrow Canyon Conduit Energy Recovery Hydroturbine Project (FERC Project No. 13569-001), the hydroturbine building will be 35 feet long, 35 feet wide and 25 feet tall and will be built on a plateau along SR 168, Warm Springs Road, and from a residence 2,400 feet away. The building will be painted a color to blend in with the adjacent landscape, thus reducing the visual impacts from these locations. [3.3.4.2 Environmental Effects – Aesthetics in FERC Project No. 13569-001]

4.2.12 Water Quality and Prime or Sole Source of Drinking Water

Cumulative impacts to surface waters under the Proposed Action are expected to be minimal. Minor water runoff from dust abatement measures such as water trucks could cause some sedimentary runoff to occur in the Muddy and Arrow Canyon Washes, which also drain the majority of the project area. These effects would be minor and temporary considering the scope of the project and the size of the drainages relative to the amount of runoff expected. There is also the potential for runoff from the associated hydroturbine facility because water is being utilized from a pipeline to supply the operation. These impacts would be mitigated by the Moapa Valley Water District and SNWA.

There would be no impacts on groundwater resources cumulative with the Proposed Action because the local aquifers exist outside the proposed project area. The proposed project does not utilize water resources for its operation. Impacts to local aquifers from the Coyote Spring Well and Moapa Transmission project and the Arrow Canyon Hydroturbine facility would be mitigated by Moapa Valley Water District and SNWA. Growing residential development at the Coyote Springs Development could also impact local aquifers from residential use of water resources which would be mitigated by the Moapa Valley Water District and SNWA.

In order to minimize cumulative impacts to water resources in the area, work pads for pole sites on the proposed distribution line would be located to minimize disturbance on slopes and near washes. Any surface disturbances necessary for the installation of anchors and guy wires on or near slopes would be restored to their original condition as described in Section 4.1.7 *Soils*. The proposed access road is designed to avoid the primary slope located on the site and to maintain a significant distance from existing natural washes. These steps would be taken to reduce impact on soil erosion due to construction activity and to ensure minimal cumulative effect on the existing water quality of the area.

4.2.13 Wildlife

Cumulative impacts for T&E, Candidate and BLM sensitive species were discussed in Section 4.2.8. The cumulative impacts to other species are presented below. Other impacts or activities in the immediate area currently include recreation, and development of utilities such as power and water.

Cumulative impacts to existing wildlife in the area such as common rodents and other small mammals, reptiles, and birds would result from clearing and overland vehicular travel. There would continue to be direct mortality from surface disturbances; collisions with vehicles; and construction or other activities such as increased human presence, increased traffic disturbance, and operational noises; activities which would cause habitat loss, fragmentation, and degradation. The slow travel of vehicles on the project site, the small size of the ROW (0.79 acres) and the short duration of construction activity (2 weeks) would reduce the possibility of these occurrences. Other impacts in the region include recreational, residential and utility development. Overall, due to the limited scope of this project as well as other projects in the area and the abundance of undisturbed land in adjacent areas, cumulative impacts would likely be low.

4.3 Mitigation Measures

Additional controls may be applicable to minimize impacts of the Proposed Action with regard to various specific resources. The applicant would coordinate with the land owner (BLM) to determine the appropriate mitigation measures and the degree to which they would be applied. Any resource determined to not need further mitigation is not discussed in this section.

4.3.1 Air Quality

The applicant would use appropriate emission controls on all equipment and vehicles used during construction of the proposed distribution line. Water would be applied to the surface soils during ground-disturbing activities to minimize the creation of dust.

A Clark County dust permit would be obtained and its conditions would be adhered to for the duration of construction. Air pollutants resulting from this short-term construction phase would be within the acceptable limits allowed by federal and local regulations (see Section 3.2 *Air Quality*) and long-term impacts would not occur.

4.3.2 Health and Safety

Vegetation would be cleared from the access road and work sites prior to entry by other vehicles and workers. Any person on the site would be required to smoke only in a cleared area or in a vehicle, observe any local fire restrictions imposed, and to extinguish and dispose of smoking materials properly. Gasoline-powered tools, such as chainsaws, would be fitted with spark arrestors and any welding that might occur on site would observe appropriate fire-safety measures.

4.3.3 Noxious Weeds and Invasive Species

The project proponent shall adhere to guidelines stipulated by the governing agency (BLM) to protect the project area and vicinity from the introduction or spread of noxious or invasive weeds species. Care should be taken to follow the stipulations put forth in the Weed Management Plan (Appendix B) to insure that personnel and equipment do not introduce invasive species, and that the site is monitored for potential new threats.

These guidelines, as laid out in the Weed Management Plan (see Appendix B), include the following stipulations:

- a. All contractor vehicles and equipment should be cleaned prior to arrival at the work site using high pressure equipment. All surfaces should be free of any soil or debris capable of transporting weed seeds, roots, rhizomes or vegetative parts. This includes the vehicle undercarriage and all areas where soil might be expected to collect (tracks, tires, axles, frames, bumpers, running boards, steps, etc.). The vehicle cab should also be swept and free of soil and debris prior to the vehicle being brought on site. Personal vehicles are expected to enter the job site clean and free of weed seeds and plant material at all times.
- b. Prior to completing ground disturbing events, existing weed populations may be treated using a currently accepted herbicide treatment. The project proponent would obtain and maintain any necessary permits needed for pesticide use. In lieu of treatment, weed populations may be cleared and disposed at a landfill facility prior to proceeding with additional ground moving events. Loads containing weed infested material are to be covered

during transport in such a manner as to prohibit seeds or plant parts from being blown out of the storage area.

- c. The project proponent should limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The project proponent should avoid creating soil conditions that promote weed germination and establishment.
- d. The project proponent should locate equipment storage, machine and vehicle parking or any other area needed for the temporary placement of people, machinery and supplies in areas that are relatively weed-free. The project proponent should avoid or minimize all types of travel through weed-infested areas or restrict major activities to periods of time when the spread of seeds or plant parts is least likely.
- e. Project workers should daily inspect, remove, and dispose of weed seeds and plant parts found on their clothing and personal equipment, bag the product and dispose in a dumpster for deposit in local landfills.
- f. The project proponent should evaluate options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established.
- g. The site is to be monitored for noxious and invasive weed species for a period of one year following completion of the restoration process. The site is to be visually inspected for weed species during the spring and fall growing seasons and the findings reported to the BLM. If new weed populations are noted in the project area, these are to be controlled using the means provided in stipulation "b" above.

4.3.4 Soils

Topsoil removed during construction would be salvaged for use in restoration. All disturbed areas are to be restored following construction to minimize soil and water erosion. All equipment and vehicular access to the project area would be confined to existing roads and established ROWs, including the proposed ROW and access road. All permanent roads are to be built away from existing slopes and are to follow natural contours which would minimize increased erosion within the project area.

4.3.5 Threatened, Endangered, Candidate, and Sensitive Animal and Plant Species

Desert Tortoise. While no tortoise or tortoise sign were located in a survey of the proposed project area, it is located in and adjacent to suitable tortoise habitat. A clearance of the area, by a qualified biologist following USFWS protocols, should precede commencement of construction activity. Construction activity during the desert tortoise active season, generally March through October, should be monitored by a qualified biologist to prevent the occurrence of any harassment or harm to a desert tortoise. All personnel on site would be presented with an educational program to ensure awareness of the desert tortoise and regulations and precautions applicable to working in its habitat.

The proponent would be required to comply with attached terms and conditions for Area C from the Programmatic Biological Opinion for Multiple Use Activities (1-5-97-F-251).

Western Burrowing Owls and Migratory Birds. The clearance of the area described above would include observation of any burrowing owl or migratory birds, including raptors that may be nesting in the area. In the event that a nest is located, that portion of the project would be closed

to travel or other activity until the nest is abandoned. Construction should be scheduled to take place outside the primary nesting season, March 15 – July 30 (BLM Affected Resources Form). If a project that may alter any breeding habitat has to occur during the breeding season, then a qualified biologist must survey the area for nests prior to commencement of construction activities. This shall include burrowing and ground nesting species in addition to those nesting in vegetation or structures. If any active nests (containing eggs or young) are found, an appropriately-sized buffer area must be avoided until the young birds fledge. The desert tortoise education program should also include pertinent information related to burrowing owls and Migratory Birds.

Raptors have a tendency to nest in poles, towers, and other structures. Because of the lack of trees on much of Nevada's lands, power lines have become a substitute place for these birds to perch and roost. Conventional perch and nesting deterrents should be utilized in adherence to the Migratory Bird Treaty Act. Perching and nest deterrents include: devices installed on support towers; actual physical maintenance through hazing; and/or physical removal of nest structures when eggs or chicks are not present. All transmission structures should be designed to be avian-safe in accordance with the *Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006* (Avian Power Line Interaction Committee (APLIC, 2006).

Cacti and Yuccas. Since all cacti and yuccas are protected by Nevada State Law, all specimens which cannot be avoided would need to be moved out of harm's way prior to ground-disturbing activities. This can be done by moving them one time to a location within the ROW where they would not incur further interference. To ensure successful salvage and transplant, all cactus and yucca must be salvaged using a contractor (or other approved by the BLM botanist) with at least three years' experience salvaging and maintaining plant materials in the Mojave or Sonoran Deserts. All cacti should be moved to a location similar to that from which they are moved and their existing orientation and depth should be maintained. All moved specimens should be identified for monitoring purposes and periodically checked for health and wellness as part of the restoration monitoring. All specimens should be watered once upon relocation and again during site restoration (approximately two weeks later), and as needed during the restoration monitoring period.

4.3.6 Vegetation

All temporarily disturbed areas would be restored upon completion of construction using guidelines in the Restoration Plan for Energy Projects in the Las Vegas Field Office Bureau of Land Management (BLM, 2001).

5. TRIBES, INDIVIDUALS, ORGANIZATIONS, OR AGENCIES CONSULTED

As the Proposed Action includes minimal facilities on federal lands and only a small additional surface disturbance is required, no scoping notice was necessary to assess issues and concerns.

Table 5-1. Tribes, Individuals, Organizations, or Agencies Consulted

Name	Affiliation	Responsibility
Nick Leavitt	Overton Power District No. 5	Field Engineer
Randall Ozaki	Overton Power District No. 5	Regulatory Compliance
Mendis Cooper	Overton Power District No. 5	Engineering Manager
Jay Officer	Southern Nevada Water Authority	Environmental Planner
Derek Babcock	Southern Nevada Water Authority	Environmental Planner II
John Evans	Southern Nevada Water Authority	Engineering Project Manager
Scott P. Krantz	Southern Nevada Water Authority	Director, Energy Management
Kenneth C. Knight, Ph.D.	Knight & Leavitt Associates	Consultant

6. LIST OF PREPARERS

The Overton Power District Power Line Right-of-Way Environmental Assessment was prepared by a third-party contractor working under the direction of and in cooperation with the lead agency for the project, which is the Bureau of Land Management (BLM), Las Vegas Field Office, Las Vegas, Nevada.

Table 6-1 identifies the third-party consultant interdisciplinary team principally involved with preparing this EA.

Table 6-1. Consultant Interdisciplinary Team

Name	Affiliation	Responsibility
Gary Holsan	Gary Holsan Environmental Planning	Interdisciplinary Team Leader
Crystal Cogar	Knight and Leavitt Associates	Supervising Biologist
DeVon Ekenstam	Knight and Leavitt Associates	Lead Botanist
Gene Drollinger	Knight and Leavitt Associates	Field Biologist
Barrett Scurlock	Knight and Leavitt Associates	Field Biologist

Table 6-2 identifies the core BLM interdisciplinary team principally involved with preparing and reviewing this EA.

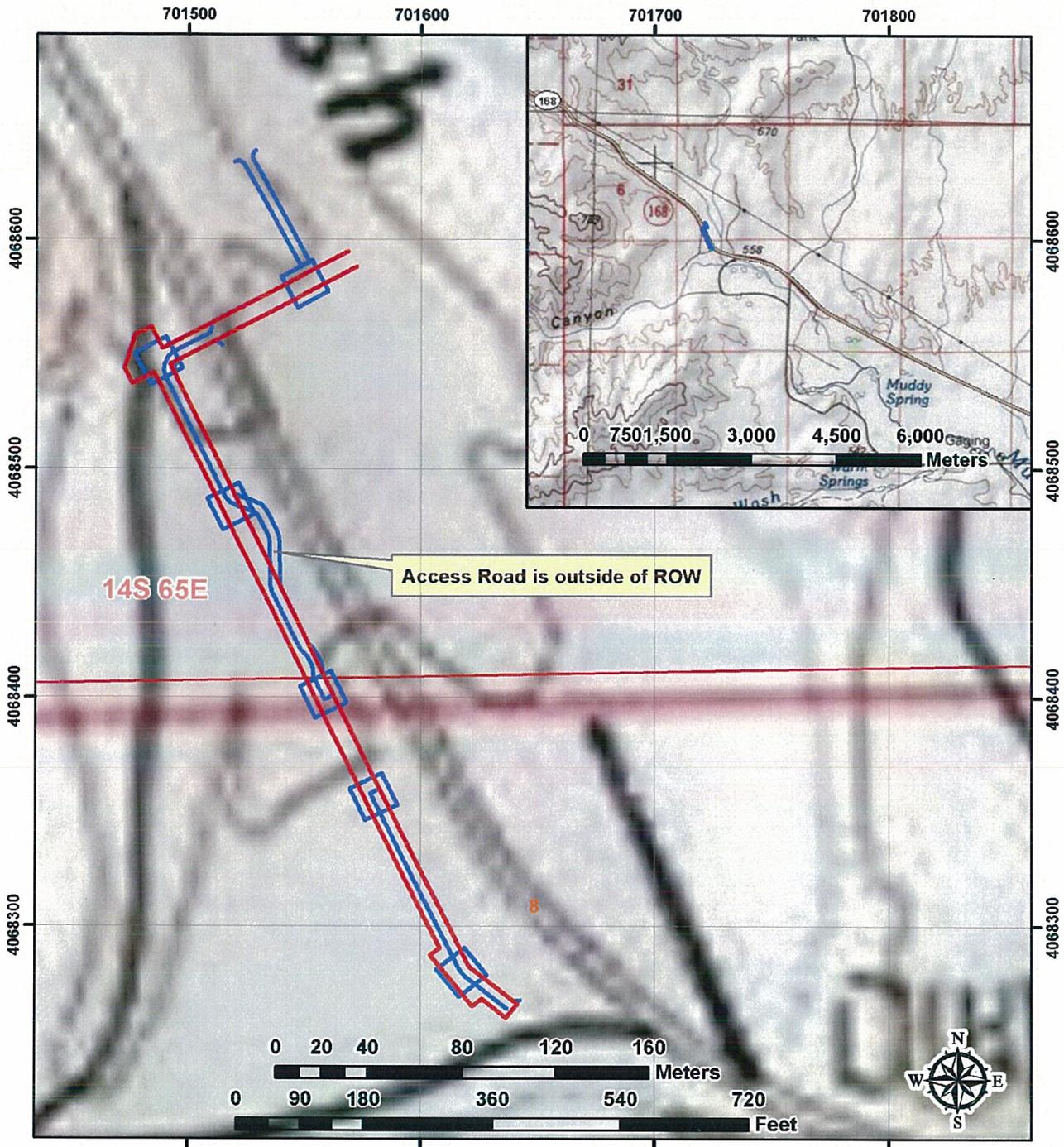
Table 6-2. Las Vegas Field Office Interdisciplinary Team

Name	Responsibility
Phil Rhinehart	BLM Project Lead
Lisa Christianson	Air Quality, Greenhouse Gas Emission
Susanne Rowe	Cultural, Paleontology, Native American Religious Concerns
Lucas J. Rhea	Fire Management
George Varhalmi	Geology
Nora Caplette	Invasive Species/Noxious Weeds
Krystal Johnson	Livestock Grazing, Rangeland Health, Wild Horse & Burro
Susan Farkas	Planning & Environmental Coordinator
Marilyn Peterson	Recreation, Wild & Scenic Rivers
Mark Slaughter	Wildlife, ACEC
Fred Edwards	Vegetation, ACEC
Lauren Brown	Visual Resources
Sarah Peterson	Water Resources/Soils
Sendi Kalcic	Wilderness, Wilderness Characteristics
John Evans	Planning & Environmental Coordinator

7. REFERENCES

- Avian Power Line Interaction Committee. 2006. *Suggested Practices for Avian 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.
- Bradley, W. G. and J. E. Deacon, 1967. The Biotic Communities of Southern Nevada. Nevada State Museum, Anthropological Papers No. 13. Biology Department of Nevada Southern University and Desert Research Institute, Las Vegas Nevada
- Bureau of Land Management. 1980. BLM Visual Resource Management Manual. USDI-BLM, Government Printing Office, Washington, D.C.
- Bureau of Land Management. March 2010. Proposed project Name Overhead Transmission Line Associated with Southern Nevada Water Authorities Hydroelectric Arrow Canyon Power Project (N-86312), Affected Resources Form. United States Department of the Interior Bureau of Land Management. Las Vegas Field Office. Las Vegas, Nevada.
- Bureau of Land Management. September 2001. Restoration Plan for Energy Projects in the Las Vegas Field Office Bureau of Land Management. United States Department of the Interior Bureau of Land Management. Las Vegas Field Office. Las Vegas, Nevada.
- Clark County, Nevada Department of Comprehensive Planning. July 2009. Accessed November 9, 2010 at:http://www.accessclarkcounty.com/depts/comprehensive_planning/demographics/Documents/2009PlacePopulation.pdf.
- Natural Resources Conservation Service: Soil Survey Staff. 2010. United States Department of Agriculture: Web soil survey. Retrieved August 2, 2010 at <http://websoilsurvey.nrcs.usda.gov/>
- Nevada Department Of Transportation (NDOT), 2010. Accessed August 4, 2010 at:http://www.nevadadot.com/reports_pubs/traffic_report/2009/.
- Nevada Division of Environmental Protection, 2009. Accessed November 10, 2010 at:<http://ndep.nv.gov/bffwp/moapavalley.htm>.
- Sperling's Best Places to Live and Retire, 2010. Accessed November 9, 2010 at:<http://www.bestplaces.net/city/Moapa-Nevada.aspx#>.
- State of Nevada. 2007. Nevada Revised Statutes. Retrieved November, 2008 at:<http://www.leg.state.nv.us/NRS/Index.cfm>.
- United States Fish and Wildlife Service. 2009. Desert Tortoise Field Manual. Nevada State Office. Reno, Nevada. Consulted August 20, 2010. Available online at:
http://www.fws.gov/ventura/speciesinfo/protocols_guidelines/.
- United States Geological Service. 2010. Nevada Active Water Level Network. Accessed November 9, 2010 at:<http://groundwaterwatch.usgs.gov/StateMaps/NV.html>.
- Western Regional Climate Center (WRCC), 2010. Accessed July 29, 2010 at:<http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?nv4651>.
- Western Regional Climate Center. 2010. Historical climate information: Nevada, average wind speed. Retrieved August 2, 2010 at <http://www.wrcc.dri.edu/htmlfiles/westwind.final.html>.

Appendix A
Project Right-of-Way and Disturbance Map
Drawing of a Structure



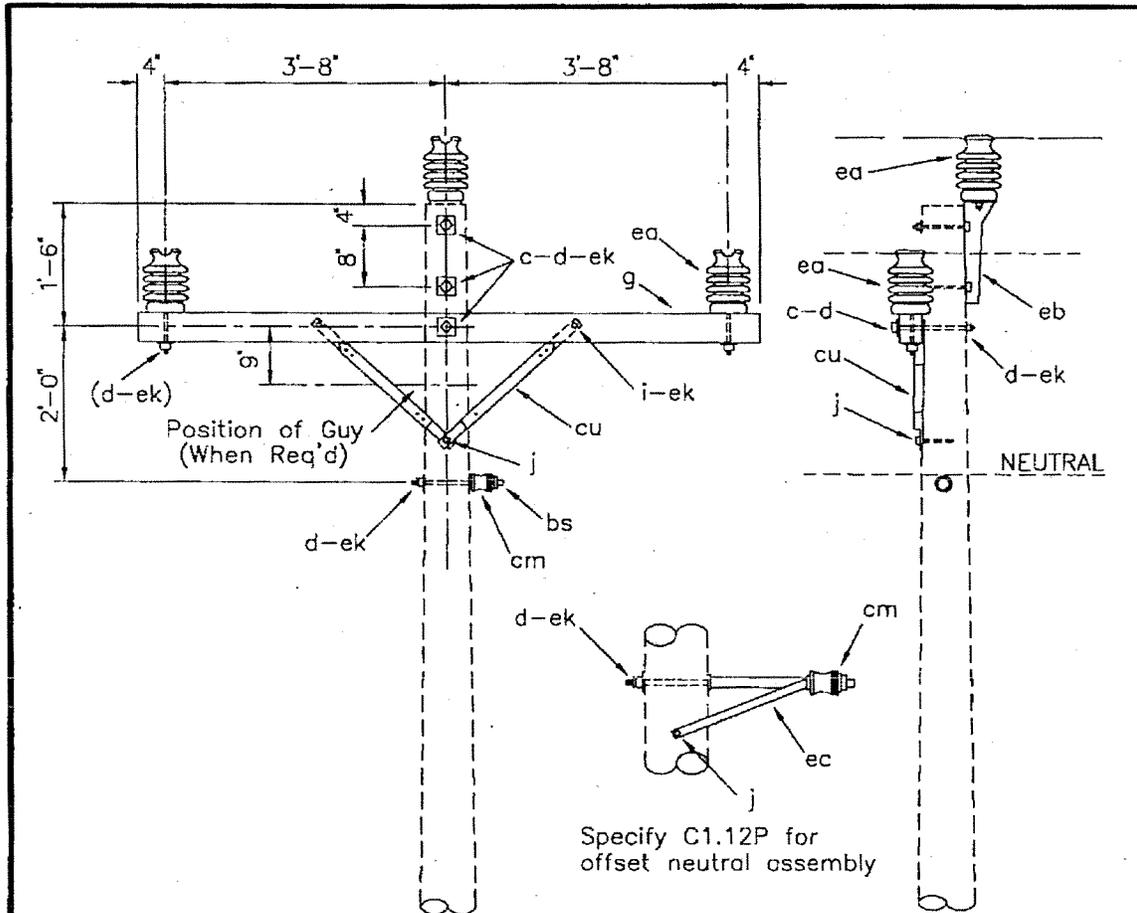
Base Maps: USGS 7.5' Moapa West(1984), Arrow Canyon(1986), Wildcat Wash SE(1972), and Farrier(1972)



Overton Power District #5
 Power Line Right-Of-Way
 Project ROW and Disturbance Map

Legend	
—	ROW
—	Permanent Disturbance Area

Figure A-1. Project ROW and Disturbance Map



ASSEMBLY: C1.		11P	12P
ITEM	MATERIAL	QTY	QTY
c	Bolt, machine, 5/8" x req'd length	3	3
d	Washer, square, 2 1/4"	5	5
g	Crossarm, 3 5/8" x 4 5/8" x 8'-0"	1	1
i	Bolt, carriage, 3/8" x 4"	2	2
j	Screw, lag, 1/2" x 4"	1	3
bs	Bolt, single, upset	1	
cm	Insulator, spool, 3"	1	1
cu	Brace, 28'	2	2
ea	Insulator, post type (12.47/7.2 kV)	3	3
eb	Bracket, pole top	1	1
ec	Bracket, offset neutral		1
ek	Locknuts	6	6

DESIGN PARAMETERS:

MAXIMUM LINE ANGLES:
 5° - Small Conductors
 2° - Larger than #1/0

SINGLE SUPPORT ON CROSSARM
 (TANGENT) (POST INSULATORS)

APRIL 2005

RUS

3 -- PHASE PRIMARY
 12.47/7.2 kV

C1.11P (C1P)
 C1.12P (C1AP)

Figure A-2. Drawing of a structure.

Appendix B
Weed Management Plan

Weed Management Plan for the Proposed Overton Power Overhead Distribution Line Associated with the SNWA Hydroelectric Arrow Canyon Power Project

Purpose and Need

The purpose of the Weed Management Plan is to prescribe methods to prevent and control the spread of noxious and invasive weeds during and following construction. The project proponent is ultimately responsible for the implementation of the Weed Management Plan; however, all contractors and sub-contractors involved in the project should be familiar with the stipulations of the plan.

Since Federal lands adjacent to, and in vicinity of, the project area are under the jurisdiction of the Bureau of Land Management (BLM), BLM guidelines have primarily been used in the development of the Weed Management Plan described herein. The Las Vegas Field Office (LVFO) of the BLM has prepared the LVFO Weed Plan (Bartz, 2006) that provides guidance for an active integrated weed management program using best management practices (BMPs). The BMPs originated from a cooperative effort between BLM and other Federal agencies which produced the document, Partners Against Weeds (BLM, 1996). The Las Vegas Field Office Noxious Weed Plan would narrow that focus as it dovetails into the Partners Against Weeds action plan. Weeds are seen as a major threat to ecosystem health in southern Nevada. The presence of weeds in any landscape increases the inter-specific competition for resources. In most situations weeds out-compete native plants and displace them.

The management of weeds is further guided by the Las Vegas Resource Management Plan (BLM, 1998) which identifies two objectives for resource management involving weeds. 1) RP-1-f., which states; "Use integrated weed management techniques to control and eradicate tamarisk, such as burning, chemical, biological or mechanical treatments, where potential for treatment is good. Rehabilitate the area with native species to help reduce the potential for tamarisk re-establishment and improve ecosystem health." 2) VG1, which states; "Maintain or improve the condition of the vegetation on public lands to a Desired Plant Community or to a Potential Natural Community." The LVFO Noxious Weed Plan was approved on December 18, 2006.

Goals and Objectives

The goal of weed management is to implement early detection, containment, and control leading to eradication of noxious and invasive weeds during and following construction. The objective of the Weed Management Plan is to prevent the spread of noxious and invasive weeds in and adjacent to the project area, and to maintain noxious weed populations; keeping them from spreading and forming a larger portion of the vegetation community relative to presently undisturbed areas.

Noxious and invasive weeds are opportunistic plants which grow quickly in disturbed areas and have the potential to spread into natural areas where they compete with native plants for natural resources and may even displace them. Often, noxious weeds have the potential to alter the habitats in which they grow. For instance, non-native grasses, including Mediterranean grass, which is well established in the project area and red brome, which was also observed, may increase as a result of construction activities. Once established, these grasses flourish increasing the potential for fire. Fire events lead to increased disturbance further enhancing the threat posed by invasive plants.

Monitoring and maintenance, during and following construction, involves the identification of potential noxious/invasive weeds in areas within and adjacent to the construction project. The Weed Management Plan focuses on preventive measures aimed at reducing the threat of a weed infestation. Weed infestations noted during construction may be controlled primarily using mechanical means (such as by pulling or using hand tools) and monitored. Methods used to control weed infestations, which may occur following construction, will be discussed under the preventative measures.

Noxious Weed Inventories

Prior to construction, a noxious weed inventory was completed. Several invasive weeds were noted in the inventory including one saltcedar (*Tamarix ramosissima*), African mustard (*Malcolmia africana*), Russian thistle (*Salsola tragus*), Mediterranean grass (*Schismus* sp.), red brome (*Bromus rubens*), and London rocket (*Sisymbrium irio*). Tamarisk is listed as a State of Nevada Category C Noxious Weed. Category C weeds are defined as being "currently established and generally widespread in many counties of the state; actively eradicated from nursery stock dealer premises; [with] abatement at the discretion of the state quarantine officer. This species is well established in Clark County in riparian habitats and where water is relatively abundant. A publication, readily available from the University of Nevada Reno Cooperative Extension (UNCE) for controlling saltcedar is included in Appendix A.

Russian thistle and African mustard were also common in disturbed sites in the project area. Both are of particular concern as they are pervasive plants occupying disturbed sites throughout southern Nevada and have a high potential to spread into native undisturbed habitats if left uncontrolled.

Preventative Measures

It is imperative during construction to prevent the spread of existing weed populations. It is also of concern to prevent new species of weeds from being introduced into the construction area and vicinity. Monitoring for weed species during construction allows for timely intervention which may prevent the establishment of new or existing species. The State of Nevada maintains an official Noxious Weed List (Nevada Department of Agriculture, 2006) identifying potentially threatening plant species. All plant species identified from the Nevada Noxious Weed List are to be included for monitoring and control on the project. An additional guide to assist in identifying potentially invasive plants is the *Checklist of the Non-native Plants of Southern Nevada* produced by the UNCE (Ryan, 2005).

The following are project specific stipulations which may be implemented to prevent the spread of noxious and invasive weeds in the project area and surrounding lands.

- a. All contractor vehicles and equipment should be cleaned prior to arrival at the work site using high pressure equipment. All surfaces should be free of any soil or debris capable of transporting weed seeds, roots, rhizomes or vegetative parts. This includes the vehicle undercarriage and all areas where soil might be expected to collect (tracks, tires, axles, frames, bumpers, running boards, steps, etc.). The vehicle cab should also be swept and free of soil and debris prior to the vehicle being brought on site. Personal vehicles are expected to enter the job site clean and free of weed seeds and plant material at all times.
- b. Prior to completing ground disturbing events, existing weed populations may be treated using a currently accepted herbicide treatment. The project proponent would obtain and maintain any necessary permits needed for pesticide use. In lieu of treatment, weed populations may be cleared and disposed at a landfill facility prior to proceeding with

additional ground moving events. Loads containing weed infested material are to be covered during transport in such a manner as to prohibit seeds or plant parts from being blown out of the storage area.

- c. The project proponent should limit the size of any vegetation and/or ground disturbance to the absolute minimum necessary to perform the activity safely and as designed. The project proponent should avoid creating soil conditions that promote weed germination and establishment.
- d. The project proponent should locate equipment storage, machine and vehicle parking or any other area needed for the temporary placement of people, machinery and supplies in areas that are relatively weed-free. The project proponent should avoid or minimize all types of travel through weed-infested areas or restrict major activities to periods of time when the spread of seeds or plant parts is least likely.
- e. Project workers should daily inspect, remove, and dispose of weed seeds and plant parts found on their clothing and personal equipment, bag the product and dispose in a dumpster for deposit in local landfills.
- f. The project proponent should evaluate options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established.
- g. The site is to be monitored for noxious and invasive weed species for a period of one year following completion of the restoration process. The site is to be visually inspected for weed species during the spring and fall growing seasons and the findings reported to the BLM. If new weed populations are noted in the project area, these are to be controlled using the means provided in stipulation "b" above.

Appendix C

Proposed Minimization Measures for Desert Tortoise or Its Habitat

Case Number: NVN-088115
NEPA Project#: DOI-BLM-NV-S010-2010-0076-EA
Sec. 7 Log #: NV-052-10-077

Terms and Conditions of Biological Opinion in Area C

File No. 1-5-97-F-251

In order to be exempt from the prohibitions of section 9 of the Act, the applicant must comply with the following terms and conditions, which implement the reasonable and prudent measures described below. These terms and conditions are non-discretionary.

1. Measures shall be taken to minimize take of desert tortoises due to project-related activities.
 - a. The Bureau, or their designee, shall provide a fact sheet to all foremen, workers, and other employees working on the project. The fact sheet will include information on the life history of the desert tortoise, legal protection for desert tortoises, penalties for violations of Federal and State laws, general tortoise activity patterns, reporting requirements, measures to protect tortoises, terms and conditions of the biological opinion, and personal measures employees can take to promote the conservation of desert tortoises. The definition of "take" will also be explained. Workers are encouraged to carpool to and from project site. The fact sheet shall be approved by the Service prior to implementation.
 - b. A speed limit of 25 miles per hour shall be required for all vehicles on the project site and unposted dirt access roads.
 - c. During construction activities, tortoise burrows should be avoided whenever possible. If a tortoise is found onsite during project activities which may result in take of the tortoise (e.g., in harms way), such activities shall cease until the tortoise moves, or is moved, out of harms way. The tortoise shall be moved by either a qualified tortoise biologist or individual trained in the proper technique of handling and moving desert tortoises. All workers will also be instructed to check underneath all vehicles before moving such vehicles. ***Tortoises often take cover under vehicles.***
 - d. A tortoise biologist shall not be required onsite during construction activities unless explicitly determined by the Bureau, or Bureau and Service, that an onsite biologist is necessary.
 - e. The FWS must approve the selected consulting firm/biologist to be used by the applicant to implement the terms and conditions of this biological opinion or permit issued by the Bureau. Any biologist and/or firm not previously approved must submit a curriculum vitae and be approved by the FWS before authorized to represent the Bureau in meeting compliance with the terms and conditions of this biological opinion. Other personnel may assist with implementing mitigation measures, but must be under direct field supervision by the approved qualified biologist.

In accordance with *Procedures for Endangered Species Act Compliance for the Mojave Desert Tortoise* (Service 1992), a qualified desert tortoise biologist should possess a bachelor's degree in biology, ecology, wildlife biology, herpetology, or closely related fields as determined by the Bureau. The biologist must have demonstrated prior field experience using accepted resource agency techniques to survey for desert tortoises and tortoise sign, which should include a minimum of 60 days field experience. All tortoise biologists shall comply with the Service-approved handling protocol (Desert Tortoise Council 1994, revised 1999) prior to conducting tasks in association with terms and conditions of this biological opinion. In addition, the biologist shall have the ability to recognize and accurately record survey results..

- f. The search for, and removal of, tortoises (i.e., clearance) is voluntary, unless explicitly required by the Bureau, or Bureau and Service. If tortoise clearance is not required, applicants or project proponents may voluntarily choose to search for and remove tortoises from lands to be disturbed within the project area. However, applicants/project proponents that voluntarily choose to clear project areas of desert tortoises, shall follow measures required in terms and conditions of this biological opinion. Specific and detailed instructions will be provided on the proper techniques to capture and move tortoises which appear onsite, in accordance with Service-approved protocol. Currently, the Service-approved protocol is Desert Tortoise Council 1994, revised 1999.
 - g. The project shall not require fencing unless determined by the Bureau, or Bureau and Service, that fencing is necessary. Projects that generally require fencing are large projects with a high level of ongoing activity, such as gravel pits and airports.
 - h. Desert tortoises encountered experiencing heat stress will be placed in a tub by a qualified tortoise biologist with one inch of water in an environment with a temperature between 76 degrees F and 95 degrees F for several hours, until heat stress symptoms are no longer evident.
 - i. Tortoises and nests found shall be relocated by a qualified tortoise biologist in accordance with Service-approved protocol (Desert Tortoise Council 1994, revised 1999). Burrows containing tortoises or nests will be excavated by hand, with hand tools, to allow removal of the tortoise or eggs.
 - j. Tortoises that are moved offsite and released into undisturbed habitat on public land, must be placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow in accordance with Desert Tortoise Council (1994, revised 1999).
 - k. Desert tortoises moved during the tortoise inactive season or those in hibernation, regardless of date, must be placed into an adequate burrow. If one is not available, one will be constructed in accordance with Desert Tortoise Council (1994, revised 1999). During mild temperature periods in the spring and early fall, tortoises removed from the site will not necessarily be placed in a burrow.
2. Measures shall be taken to minimize predation on tortoises by ravens drawn to the project area.
- This will involve a litter-control program. This program will include the use of covered, raven-proof trash receptacles, removal of trash from the construction site to the trash receptacles following the close of each work day, and proper disposal of trash in a designated solid waste disposal facility. Vehicles hauling trash to the landfill and leaving the landfill must be secured to prevent litter from blowing out along the road.
3. Measures shall be taken to minimize destruction of desert tortoise habitat, such as soil compaction, erosion, or crushed vegetation, due to project-related activities.
- a. If possible, overnight parking and storage of equipment and materials, including stockpiling, shall be within previously disturbed areas or areas to be disturbed.
 - b. All vehicle traffic will be restricted to existing access roads where possible. New access roads will be created only when absolutely necessary and only when approved by the Bureau.
 - c. Project activity areas will be clearly marked or flagged at the outer boundaries before the onset of construction. All activities shall be confined to designated areas. Blading of

vegetation will occur only to the extent necessary and shall be limited to areas designated for that purpose by the Bureau.

- d. Remuneration fees apply to future disturbance in tortoise habitat. Past disturbance or disturbance on land not considered to be tortoise habitat by a tortoise biologist, and approved by the Bureau, are not assessed a tortoise remuneration fee. Remuneration fees will be used to fund management actions which are expected to benefit the desert tortoise. Actions may involve: Habitat acquisition; population or habitat enhancement or protection; research that increases our knowledge of desert tortoise biology, habitat requirements, or factors affecting habitat attributes; reducing loss of individual animals, documenting the species' current status and trend, and preserving distinct population attributes or any other action described in the Management Oversight Group's report titled *Compensation for the Desert Tortoise* (Hastey, et al. 1991) or Recovery Plan.
- e. Payment of a remuneration fee, currently set at \$786.00 per acre, will be required for all projects *prior* to issuance of the lease, permit, notice to proceed, or other Bureau authorization, with the following exceptions:
 - (1) R&PP leases may be issued prior to payment of remuneration fees. Payment of fees on R&PP leases may be deferred until immediately prior to surface disturbance. If the R&PP project consists of phased development of the lease area, fees will be paid for each phase immediately prior to surface disturbance.
 - (2) Because many mining plans of operation are phased in over a number of years, remuneration fees may be collected prior to the beginning of each phase.
 - (3) Other projects, such as parks, that are built in phases will be assessed the remuneration fee at the beginning of each phase.
 - (4) Projects impacting less than 0.25-acres will not be assessed a remuneration fee. The 0.25-acres refers to the total project area and does not apply to each phase of a project.
 - (5) Mineral material sales and leases will be charged a fee of 25 cents per cubic yard up to the equivalent of \$786.00 per acre of disturbance, or will be assessed \$786.00 per acre for each phase of disturbance, at the discretion of the Bureau.
 - (6) Range and wildlife projects impacting less than 0.25-acres per allotment will be exempt from fees. The Bureau and Service shall decide on appropriate offsite habitat enhancement activities on a case-by-case basis for projects impacting more than 0.25-acres. All activities on an allotment count toward the cumulative acreage total for the allotment or wildlife project. Range projects will include fences, pipelines, water hauls, and spring developments.
 - (7) Unless the Bureau determines that lands proposed for disposal are exempt from mitigation fees under the *Clark County Desert Conservation Plan* (CCDCP; 1992), remuneration fees for land disposal actions will not be required under the biological opinion; consequently, no incidental take will be authorized in association with such actions. Once transferred out of Federal ownership, the owner must comply with the terms of the CCDCP in order to be covered under the incidental take permit issued to Clark County (PRT-801045), or apply for their own incidental take permit under section 10(a)(1)(B) of the Act. Consistent with Bureau policy, the legal title of lands leased under the R&PP Act shall not be transferred out of Federal ownership until appropriate remuneration fees have been collected as specified in Terms and Conditions **3.f.** and **3.g.** below.

The current rate of \$786.00 per acre will be indexed for inflation as described in Term and Condition **3.g.** below:

- f. For Community Sand And Gravel Sales: Fees will be assessed on the basis of cubic yards of material removed from project site. A fee of 25 cents per cubic yard will be applied until such time as the fees collected are equal to \$786.00 per acre for each acre of surface disturbance, or the equivalent rate as indexed for inflation. The fee shall be paid directly to the Bureau while purchasing mineral materials at the Las Vegas District Office. The fee shall be deposited directly into the Bureau's 5320 account.
- g. For Projects Other Than Community Sand And Gravel Pits (including mineral material sales): Prior to issuance of the permit, right-of-way grant, lease (except R&PP leases), notice to proceed, or approval of any action to be covered under the biological opinion, and prior to any surface-disturbing activity associated with the proposed project, including R&PP leases, the project proponent shall pay a remuneration fee of \$786.00 for each acre of surface disturbance. For phased projects (e.g., mineral material sales), fees will be paid prior to surface disturbance associated with each phase. This rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31 of each year, beginning January 31, 1998. Fees assessed or collected for projects covered under this biological opinion after January 31st of each year will be adjusted based on the CPI-U. Information on the CPI-U can be found on the Internet at: <http://stats.bls.gov/news.release/cpi.nws.htm>.

The surface disturbance for this project is 0.57 acres. The total fee for this project is \$448.02 (\$786.00 x 0.57 acres).

This fee will be paid directly to the Bureau of Land Management, Information Access Center. These funds are independent of any other fees collected by the Bureau of Land Management for desert tortoise conservation planning.

The payment shall be accompanied by the **Section 7 Fee Payment Form**, (Attachment) and completed by the payee. Payment shall be by certified check or money order payable to Bureau of Land Management. Checks may be delivered in person at the BLM Information Access Center (IAC). For private parcel services, such as Fed-Ex or UPS, use the physical address. For US Postal Service, use the PO Box. Note that the zip codes are different for physical vs. PO Box.

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 1200
Reno, NV 89520-0006

- h. Habitat reclamation will only be required if identified through the NEPA process or determined to be appropriate by the Bureau wildlife staff.
4. Measures shall be taken to ensure compliance with the reasonable and prudent measures, terms and conditions, reporting requirements, and consultation reinitiation requirements contained in the biological opinion.
- a. The project applicant shall notify the Bureau at least 10 days before initiation of the project. Notification shall be made to the Bureau's wildlife staff at (702) 515-5000.

- b. The Bureau wildlife staff (702/515-5000) and Service (702/515-5230) must be notified of any desert tortoise death or injury due to the project implementation by close of business on the following work day.
- c. All appropriate NDOW permits or letters of authorization shall be acquired prior to handling desert tortoises and their parts, and prior to initiation of any activity that may require handling tortoise.
- d. The project proponent must submit a document to the Bureau within 30 days of completion of the project showing the number of acres disturbed; remuneration fees paid; and number of tortoises taken, which includes capture and displacement, killed, injured, and harassed by other means, during implementation of programmatic actions.
- e. For tortoise removals in Clark County, the applicant shall make prior arrangements with Clark County's tortoise pickup service (702/593-9027) at least 10 days prior to the commencement of tortoise collection. Outside Clark County, initial notification shall be made to the Bureau as stated in Term and Conditions **4.a.** above.

Attachment A

SECTION 7 LAND DISTURBANCE FEE PAYMENT FORM

Biological Opinion File Number: 1-5-97-F-251
Biological Opinion Issued By: Nevada Fish and Wildlife Office, Reno, Nevada
Species: Desert Tortoise (*Gopherus agassizii*) (Mojave population)
Project Name: Overhead transmission Line Associated with SNWA Hydroelectric Arrow Canyon Power Project
Project Proponent: Overton Power District #5
Phone Number: (702) 397-2512

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		0.57				
Fee rate (per acre)		\$786.00				
Total cost/habitat type (per county)	\$ -	\$ 448.02	\$ -	\$ -	\$ -	\$ -
Total cost per county	\$ 448.02		\$ -		\$ -	

Total payment required (all counties): \$

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:	<u>Physical Address</u>	<u>PO Box</u>
	Bureau of Land Management Attn: Information Access Ctr. 1340 Financial Blvd. Reno, NV 89502	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: LVTFX000800
7122 FLPMA

7122 FLPMA

All other Res. Dev. Project and Management
Remarks: LLNV934000 L71220000.JP0000 LVTFX000800 Desert Tortoise Conservation Program

Please provide a copy of this completed payment form and the payment receipt to NV-930, Attn: T&E Program Lead

DESERT TORTOISE SECTION 7 COMPLIANCE FORM

Entire form is to be completed by the project proponent and delivered to the Bureau of Land Management within 30 days of project completion

Biological Opinion File Number: 1-5-97-F-251

Species: desert tortoise (Gopherus agassizii)

Project Name: Overhead transmission Line Associated with SNWA Hydroelectric Arrow Canyon Power Project Case File No.: NVN-088115
Acreage of Disturbance Authorized: 0.57
Acreage Actually Disturbed: _____
Fees Assessed: 448.02 Rate: \$786.00/acre

In accordance with this biological opinion, applicants or project proponents must avoid or remove tortoises from lands to be disturbed within the project area.

- Area B mandatory desert tortoise clearance survey
- Area C mandatory desert tortoise clearance survey
- Area C voluntary desert tortoise clearance survey conducted
- Area C voluntary desert tortoise clearance survey not conducted

Date(s) clearance survey(s) conducted: _____
Number of desert tortoises observed: _____
Number of desert tortoise burrows observed: _____
Number of desert tortoises injured: _____
Number of desert tortoises killed: _____
Number of desert tortoises removed from the project site: _____

(Provide a report detailing all tortoise encounters and what happened to the animals. This report will include age class, gender, and health of each animal, maps showing where each tortoise was captured and later relocated, and the air temperature during the relocation.)

Company and persons who conducted the survey and removal1:

Company: _____
Name: _____
Address: _____
Phone: _____
State Permit #: _____

If desert tortoises were encountered, attach a summary of each action. This summary shall include: date encountered; whether the animal was avoided, injured, killed, or moved out of harm's way; and if the animal was handled, please identify where the animal was relocated to.

Deliver this completed form and required supplemental information to:

Bureau of Land Management
Division of Renewable Resources
4701 N. Torrey Pines Drive
Las Vegas, NV 89130
(702) 515-5000

If you have questions, call the BLM's Wildlife staff at (702) 515-5000.

1 BLM approval of biological monitors/surveyors required. Submit resumes for review/approval 15 days prior to construction.

**U.S. Department of the Interior
Bureau of Land Management**

**Finding of No Significant Impact
Overton Power District #5 Transmission Line**

PREPARING OFFICE

U.S. Department of the Interior
Bureau of Land Management
Las Vegas Field Office
4701 N. Torrey Pines Drive
Las Vegas, Nevada 89130
(702) 515-5000



Finding of No Significant Impact

Environmental Assessment for Overton Power District No. 5's Right-of-Way for a 12.47 kilovolt Overhead Power Transmission Line and Access Road (Case File No. N-87776)

I have reviewed Environmental Assessment (EA) DOI-BLM-NV-S010-2010-0076-EA. After consideration of the environmental effects as described in the EA, and incorporated herein, I have determined that the proposed action identified in the EA will not significantly affect the quality of the human environment and that an Environmental Impact Statement (EIS) is not required

I have determined the proposed action is in conformance with the approved Nevada Las Vegas Resource Management Plan, and is consistent with applicable plans and policies of county, state, tribal and Federal agencies. This finding and conclusion is based on my consideration of the Council on Environmental Quality's (CEQ) criteria for significance (40 CFR 1508.27), both with regard to the context and the intensity of impacts described in the EA.

Mitigation Measures:

1. Mitigation measures identified for the proposed action are described in the EA and have been formulated into stipulations. These stipulations shall be incorporated into the grant.

Signatures:

Recommended by:

Philip Rhinehart

4-25-2011

Project Lead: Philip Rhinehart, Realty
Specialist

[Date]

Approved by:

Vanessa L. Hice

4/25/11

Vanessa L. Hice, Acting Assistant Field Manager,
Division of Lands

[Date]