U.S. Department of the Interior

Bureau of Land Management

Decision Record

DOI-BLM-NV-S000-2015-0002-EA

February 2016

ARES Nevada, LLC's

File Number: N-92514

PREPARING OFFICE

U.S. Department of Interior
Bureau of Land Management
4701 North Torrey Pines Drive
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1. INTRODUCTION

1.1 *Proposed Action Title/Type*

The Proposed Action is to construct, operate, and maintain a Regulation Energy Management (REM) facility to address current and future electrical grid reliability and stability issues, in accordance with Federal Energy Regulatory Commission (FERC) objectives and in conformance with the objectives set forth in the Las Vegas Resource Management Plan (RMP) and Record of Decision approved in October 1998. The proposed facility has been designed to provide environmentally-friendly and sustainable large-scale energy storage in support of promoting electrical grid stability and renewable energy consistency.

1.2 Applicant/Proponent

ARES Nevada, LLC is a Santa Barbara, California based company providing a deployable solution for grid-scale energy storage. ARES mission is to enable the electric grid to integrate unprecedented amounts of clean, environmentally responsible, renewable energy while maintaining the reliable electric service necessary to power growth and prosperity.

1.3 Location of Proposed Action

ARES proposes to locate this project exclusively on BLM-managed lands in the Carpenter Canyon area, east of Pahrump, in Nye and Clark Counties, Nevada. The alignment of the Proposed Action, including the facilities, maintenance area, and transmission, is contained within Township 20 South, Range 54 East, Sections 34 and 35; Township 20 South, Range 55 East, Sections 22, 27, 28, 31, 32, 33; Township 21 South, Range 54 East, Sections 01, 02, 03, 12; and Township 21 South, Range 55 East, Sections 06 and 07.

The Proposed Action would include 72 acres of permanent and 98 acres of temporary disturbance on BLM lands for a total of 170 acres.

1.4 Overview of the Proposed Action

ARES is proposing to construct, operate and maintain a REM facility on BLM managed land in Clark and Nye Counties, Nevada, to assist in transmission system stability and reliability, and electricity supply management on the regional electrical transmission grid. The Proposed Action is a 50 megawatt (MW) gravity based Energy Storage System which utilizes multiple electric locomotives operating on a single steep grade railroad track to store or deliver electric energy into the regional electrical grid -- using electricity from the grid to power the locomotives uphill, returning that electricity to the grid as the locomotives descend with their motors operating as generators. The Proposed Action is designed to balance variable energy demands and renewable energy contributions across an electrical grid system. The Proposed Action does not produce more energy than is introduced into its system; therefore it is not an electrical generation facility.

The Proposed Action includes the following components:

- A rail line corridor which will include an access/maintenance road and an overhead catenary system to connect the locomotives to the electrical system.
- Maintenance and operation facilities, including two buildings and a substation.

- Valley Electric Association (VEA) transmission upgrades, including new transmission lines to connect the REM facility to the existing Gamebird Switch Station, upgrading existing transmission lines directly affected by the project, and removing lines made redundant by the project.
- Expansion of the existing VEA Gamebird Switch Station to accommodate the new system.
- A facilities access road connecting to the existing transmission line maintenance road.

2. SELECTED ALTERNATIVE

As analyzed in the EA (EA# DOI-BLM-NV-S000-2015-0002) and supporting documents, the Proposed Action is the Selected Alternative.

The REM facility will provide up to 50 megawatts (MW) of gravity-based electrical energy regulation on 72 acres of BLM managed land, with temporary impacts to an additional 98 acres. The Selected Alternative was developed taking into consideration the technical aspects of the project and minimizing the facilities to be included within the West-wide Energy Corridor (Section 368 of the Energy Policy Act of 2005, 42 U.S.C. § 15926).

The Selected Alternative includes the following components:

- A 5.5 mile rail corridor, averaging 75 feet in width, which contains the rail line, a track-side maintenance/access road, and an overhead catenary system for interconnecting the locomotives to the electrical system.

- An Operations, Maintenance and Control Facilities Area includes both an operations and control building, a maintenance building for the train vehicles, and an employee and visitor parking lot. Both buildings will be constructed on concrete pads. Adjacent to this area, a transmission interconnection substation will be constructed.

- A Transmission and Access road corridor including a new transmission interconnection connecting the ARES substation to an existing VEA transmission line; upgrades to the affected portion of the existing transmission line; two new sections of transmission lines constructed to route the existing line into Gamebird Switch Station; removal of the existing 230kV transmission line currently bypassing Gamebird Switch Station; and expansion of the existing VEA Gamebird Switch Station within the existing Station right-of-way boundary.

- The new Operations, Maintenance and Control Facilities access road will be co-located with the new transmission interconnection from the existing transmission maintenance road.

3. MITIGATION MEASURES

Air Quality

- In accordance with federal air regulations, dust control permits from the Clark County Department of Air Quality (DAQ), for all soil-disturbing activities within Clark County, and Nye County Planning, for all soil-disturbing activities within Nye County, would be required for the Project. Managing fugitive emissions during construction and operation activities will be an adopted design feature and are a requirement for both counties. BLM approved fugitive dust control measures, including the regular application of water to disturbed surfaces, would reduce onsite emissions and serve to keep off-site emission levels reduced. In addition, Clark and/or Nye County may defer management and oversight of the dust control permit to the Nevada Division of Environmental Protection (NDEP), Air Quality Bureau.

Fuels/Fire Management and Noxious Weeds

- Implementation of standard BMPs and project stipulations would help identify, prevent, and treat the spread of noxious and/or invasive species and reduce potential wildfire impacts.
    - An Integrated Weed Management Plan will be prepared by the proponent and approved by the BLM Weed Coordinator. ARES proposes to reduce and control invasive plants within the project area by manual methods, and if necessary and approved by the BLM, herbicides, to lessen the potential for the dispersal or increased abundance of any new noxious weeds.
    - A Fire Protection Plan would be prepared by the proponent and approved by the BLM Southern Nevada District Fire Management Officer to minimize the occurrence of unwanted human-caused and naturally caused fires. The plan would describe an emergency notification procedure, site evacuation process, and fire suppression and prevention procedures. Project personnel shall be instructed as to the individual responsibility of the plan.
- Fire restrictions are generally enacted May through October. Compliance with fire restrictions is mandatory while fire restrictions are in effect. Specific non-compliant activities may be permitted in writing on a case by case basis by a line officer after review and approval by the Fire Management Officer (43 CFR 9212).
- Conditions that support wildfire can occur any time of the year in Southern Nevada. In general and when fire restrictions are not in effect, use standard fire prevention measures and best management practices to prevent fires (43 CFR 2805.12(d) or subsequent revisions). Minimize wildfire risk to assets or infrastructure where needed by maintaining a wildfire defensive space.
- The proponent shall immediately report fires to the BLM or appropriate dispatch center and make all accommodations to allow immediate safe entry of firefighting apparatus and personnel. In the event of a human caused wildfire the proponent will be held responsible for all costs of suppression and damaged resources pending a wildfire Origin and Cause Investigation. An Origin and Cause Investigation will be carried out on any human caused fire by BLM Law Enforcement or their designated representative. To minimize disturbance of potential evidence located at the fire scene; the proponent shall properly handle and preserve evidence in coordination with the BLM. The proponent shall report

to the Fire Investigator or BLM Incident Commander and enter into the fire origin area on BLM fires only when given permission to do so. The proponent will cooperate with the BLM in performance of fire investigation to determine wildfire cause.

- The holder, applicant or proponent shall be liable for damage or injury to the United States to the extent provided by 43 CFR 2807.12. The holder, applicant or proponent shall be held to a standard of strict liability for damage or injury to the United States caused or substantially aggravated by any of the following within the right-of-way or permit area:
    - Activities of the holder, applicant or proponent, including but not limited to construction, operation, maintenance, and termination of the facility.
    - Activities of other parties including but not limited to:
        - Land clearing and vegetation removal.
        - Earth-disturbing and earth-moving work.
        - Blasting.
        - Vandalism and sabotage.
- The maximum limitation for such strict liability damages shall not exceed two million dollars ($2,000,000.00) for any one event, and any liability in excess of such amount shall be determined by the ordinary rules of negligence of the jurisdiction in which damage or injury occurred. This section shall not impose strict liability for damage or injury resulting primarily from negligent acts or omissions of the United States.
- At the onset of project planning in the NEPA analysis phase, the project proponent or the project lead shall complete an Integrated Weed Management Plan (WMP) which would be prepared and submitted to the BLM for review and approval prior to construction. The WMP is a planning document that acknowledges, assesses, and provides an inventory of weed infestations for treatment. The WMP will recognize the project's impact on vegetation and define the expected treatments and activities necessary to both maintain the determined desired condition for the vegetation community, and control the weeds that may occur within the project area. Should the weed spread beyond the project foot print then these weeds will be treated as a part of the project. This will include access routes.
- The proponent is responsible for weed control on disturbed areas within the limits of the right-of-way. The proponent will consult with the BLM Weed Coordinator for planning acceptable weed control measures on all noxious weed infestations within the limits of the right-of-way. The use of pesticides shall comply with Federal and state laws governing their proper usage, storage and disposal, and any limitations imposed by the Secretary of the Interior.
- The project proponent shall coordinate project activities with the BLM Weed Coordinator (702-515-5000) regarding any proposed pesticide treatment. The project proponent shall prepare, submit, obtain and maintain a pesticide use proposal (PUP) for the proposed action.
- The project proponent shall 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 will avoid creating soil conditions that promote weed germination and establishment.

- The project proponent shall begin project operations in weed free areas whenever feasible before operating in weed-infested areas.
- The project proponent shall 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 shall avoid or minimize all types of travel through weed-infested areas or restrict major activities to periods of time when the spread of seed or plant parts are least likely.
- BLM or the project proponent shall determine equipment-cleaning sites (if equipment is infested with weed seeds, plant parts or mud and dirt). Project related equipment and machinery (this especially includes the nooks and crannies of undercarriages) will be cleaned using compressed air or water to remove mud, dirt and plant parts before moving into and from relatively weed-free areas. Seeds and plant parts will be collected, bagged and deposited in dumpsters destined for local landfills, when practical.
- Project workers shall inspect, remove, and dispose of weed seed and plant parts found on their clothing and personal equipment, bag the product and dispose of in a dumpster for deposit in local landfills. Disposal methods may vary depending on the project. If you have questions consult with the LVFO Noxious Weed Coordinator.
- The project proponent shall evaluate options, including area closures, to regulate the flow of traffic on sites where native vegetation needs to be established.

Floodplains

- Application of proposed design features would reduce floodplain impacts. Surface water protection measures will be taken for runoff and storm events. US Army Corps of Engineers Nationwide Permit 43 applies to stormwater management facilities.

Threatened and Endangered Species

- Project actions will be minimized by following the Reasonable and Prudent Measures and Terms and Conditions as outlined in the appended BLMs Programmatic Biological Opinion (File No. 84320-2010-F-0365.R003) found in Appendix A of this document as well as the following additional mitigation measures:

  Design and Construction Mitigation Measures

  - During all handling procedures, desert tortoises will be treated in a manner to ensure that they do not overheat or exhibit signs of overheating (e.g., gaping, foaming at the mouth, etc.), or are placed in a situation where they cannot maintain surface and core temperatures necessary to their well-being. Desert tortoises will be kept shaded at all times until it is safe to release them. For the purposes of this permit, ambient air temperature will be measured in the shade, protected from wind, at a height of five centimeters above the ground surface.
  - BLM wildlife staff and USFWS will be notified of any desert tortoise death or injury due to the project implementation by close of business on the following

work day. Any other reporting requirements detailed in the Biological Opinion will also be adhered to.

- All appropriate state and federal permits, including NDOW and USFWS permits for handling desert tortoises or their parts, will be acquired by the tortoise biologists or other personnel before project initiation and prior to handling any desert tortoise or their parts, or conducting any activity requiring a permit.
- The project proponent or permittee will submit a report to BLM wildlife biologist within 30 days of completion of the project construction documenting the number of acres disturbed; remuneration fees paid; and number of tortoises observed or taken during the project, which includes capture and displacement, killed, injured, or harassed by other means.
- Overnight parking and storage of equipment and materials, including stockpiling, will be within previously disturbed area or within project areas cleared by a tortoise biologist.
- Workers and project related individuals will be encouraged to carpool to and from the project site.
- Water applied to dirt roads and construction areas (trenches or spoil piles) for dust abatement will use the minimal amount needed to meet safety and air quality standards in an effort to prevent the formation of puddles, which could attract desert tortoises and common ravens to construction sites. During regular tortoise surveying duties, water application will be monitored to ensure puddles do not develop. Appropriate actions will be taken to reduce water application if standing water is observed.
- Litter control will be implemented and enforced by the project proponent. During construction all trash and food related waste will be placed in predator-proof containers and removed daily from the site. Trash, litter, project debris, etc. will be transferred to a designated solid waste disposal facility. Vehicles hauling trash must be secured to prevent litter from blowing out along the road.
- Workers will not feed wildlife.
- Speed limits will be posted at 15 miles per hour or below for construction traffic on all roads within the Action Area. Within Clark and Nye Counties, the speed limit is 25 miles per hour on unposted County or dirt roads; this speed will be established for all other activities at all times.
- Vehicle traffic will be restricted to existing access roads, unless otherwise authorized by the BLM and USFWS.
- Sand, gravel, and other material generated from cut activities within the project area will be used for fill and road construction to the extent possible. Necessary materials not collected from the site will be purchased from a permitted commercial source.
- The boundaries of all areas to be disturbed (including staging areas, access roads, and sites for temporary placement of spoils) will be delineated with flagging prior to construction activities. All disturbances, vehicles, and equipment will be confined to the flagged area.
- A BLM representative will be designated who will be responsible for overseeing compliance with the reasonable and prudent measures, terms and conditions,

reporting requirements, and reinitiation requirements contained in the Biological Opinion.

- Temporary disturbance areas will be restored in accordance with BLM restoration protocols for the project.
- Trenches, pits, or holes (if needed) will be covered or backfilled at the end of each day. If covering or backfilling is not feasible, escape ramps will be provided and biologists will inspect the areas each morning.

Operations Mitigation Measures

- Habitat fragmentation caused by the REM Facility will be minimized with the installation of dual purpose drainage/connectivity culverts, a single strategically placed desert tortoise crossing, and under-rail tortoise escapes (Map 2); dual purpose drainage/connectivity culverts will also ensure that local hydrologic dynamics and dependent plant communities are minimally impacted. Drainage/connectivity structures will be 36 or 48 inches in diameter, depending on the size and characteristics of the drainage channel encountered, and will be accessible to tortoises via tortoise ramps or other appropriate designs. The desert tortoise specific connectivity culvert will consist of a 12-inch tall arch (i.e., half of a 24-inch diameter pipe) with a flat bottom, which has been positioned to reduce the maxim distance between culverts-type crossings to 0.9 mile from an original gap of 1.4 miles. Under-rail tortoise escape passages will be installed approximately every 0.2 mile (1000 feet) to prevent tortoises from becoming trapped on the rail line and to provide additional avenues for connectivity.
- Within Clark and Nye Counties, the speed limit is 25 miles per hour on unposted County or dirt roads; this speed will be established for all activities at all times.
- A BLM representative will be designated who will be responsible for overseeing compliance with the reasonable and prudent measured, terms and conditions, reporting requirements, and reinitiation requirements contained in the Biological Opinion.
- Litter control will be implemented and enforced by the project proponent. All trash and food related waste will be placed in predator-proof containers (or within closed containers inside closed buildings) and removed as appropriate from the site. Trash, litter, project debris, etc. will be transferred to a designated solid waste disposal facility. Vehicles hauling trash must be secured to prevent litter from blowing out along the road.
- Workers will not feed wildlife.

Rehabilitation

- Affected areas will be re-vegetated and reclaimed to resemble their current state.
- All structures associated with the rail line will be removed by the project proponent and recycled, repurposed, or disposed of using current standards for demolition and disposal in Nevada.
- Coordination will occur with BLM to restore the original contour and vegetation of the land. Seeding will be conducted using BLM-recommended seed mixes.
- Material used for the operation of the facility will be recycled to the greatest extent possible upon removal.

- The following plans would be prepared and implemented that would further reduce impacts to listed species:
    - Worker Environmental Awareness Plan
    - Raven Management Plan
    - Integrated Weed Management Plan
- Anti-perch devices will be utilized. The transmission lines will be Avian Power Line Interaction Committee (APLIC) compliant and a raven management plan will be developed.

Migratory Birds

- Habitat-altering projects or portions of projects should be scheduled outside of the bird breeding season which generally occurs between February 15th and August 31st. If a project has to occur during the breeding season, then a qualified biologist must survey the area for nests immediately prior to commencement of construction activities. This shall include burrowing and ground nesting species in addition to those nesting in vegetation. If any active nests are found, an appropriately-sized buffer area must be established and maintained until the young birds fledge. The buffer area must connect to suitable, undisturbed habitat. As the above dates are a general guideline, if active nest are observed outside this range they are to be avoided as described above.
- Due to potential for electrocution, collision and nesting/perching by migratory birds on overhead power lines, the Proposed Project must follow Avian Power Line Interaction Committee (APLIC) guidelines (Suggested Practices for Avian Protection on Power Lines [2006] and Reducing Avian Collisions with Power Lines [2012]) to reduce this risk through facility design and comply with MBTA and other federal wildlife laws.
- Guy wires should not be used if practicable. If not practicable, all guy wires must be marked in sections over the entire line (flight diverters or markers) so they are visible to prevent injury/mortality to birds through collision.
- Any lighting for on-ground facilities and equipment would be down-shielded to keep light within the boundaries of the site.

Restoration

- All short term or temporary use areas are required to be restored. A restoration plan is required to be developed according to the current BLM guidelines and requires review by BLM Botanist. Please contact the BLM Botanist for the current guidelines.

Land Use

- Interagency Operating Procedures state corridors are to be efficiently used. The applicant, assisted by the appropriate agency, shall consolidate the proposed infrastructure, such as access roads, wherever possible and utilize existing roads to the maximum extent feasible, minimizing the number, lengths, and widths of roads, construction support areas, and borrow areas.
- The Proposed Action may require coordination with the BLM to modify infrastructure to ensure it is compatible with the purpose of the corridor. Where design modifications are insufficient to reduce conflicts of the proposed transmission line and rail line with future uses of the Section 368 Energy Corridor (if required), ARES will work further with BLM to find an acceptable compromise without violating federal statutes.

- Any development within Sec. 368 corridors will abide by the Interagency Operating Procedures found in Appendix B of this document.

Human Health and Safety

- Any hazardous materials, solid or hazardous waste will be handled in accordance with all applicable federal, state and local compliance regulations, including training and the safe, transport, handling, storage and disposal of all solid and/or hazardous waste for the construction, operation and decommissioning phases of the Project.
- All applicable safety and management plans for the operation, control, and maintenance of all components will be developed and followed. A health and safety program will be developed to protect both workers and the general public during construction, operation, and decommissioning. The program should identify all applicable Federal and state occupational safety standards, establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses, Occupational Safety and Health Administration [OSHA] standard practices, measures for reducing occupational electromagnetic field [EMF] exposures), and define safety performance standards (e.g., electrical system standards). The program will include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies should be established.
- ARES will develop a comprehensive emergency plan that considers the vulnerabilities of the Proposed Project to credible events initiated by natural causes (earthquakes, avalanches, floods, high winds, violent storms, wildfires, etc.), human error, mechanical failure, cyber attack, or sabotage, and the potential for and possible consequences of those events.
- The track and roadway will be inspected daily, possibly employing robotic equipment that can work 24 hours a day, seven days a week, without direct manual control. The inspection criteria will be, at a minimum, based on Title 49 CRF 213 Track Safety Standards as published in the Federal Register (latest), supplemented by recommendations of the International Heavy Haul Association (IHHA) and in-house developed criteria based on best practices from a world-wide network of specialized, heavy-haul railroad operations. There will be an internal process for automatic evaluation of inspection results data, tied into a system to generate work orders that will direct the Maintenance of Way (MOW) Department to repair or replace any defective guideway elements. The MOW Department will operate on a proactive basis to minimize the possibility of guideway components slipping below the State of Good Repair, by grinding rail, correcting surface anomalies, ultrasound testing of rail, etc., based on the inspection data and a planning forecast program that prevents any serious exceptions from developing.
- The design, construction, operation, and maintenance of the 230 kV transmission line would meet or exceed the requirements of the National Electrical Safety Code (NESC), U.S. Department of Labor, OSHA, California Independent System Operator, Federal Energy Regulatory Commission, and VEA's requirements for safety and protection of landowners and their property.
- The Proposed Project will comply with FAA regulations, including lighting regulations.

- ARES will develop a fire management strategy to implement measures to minimize the potential for a human-caused fire during project construction, operation, and decommissioning. The strategy should clarify who has responsibility for fire suppression and hazardous fuels reduction, if necessary.
- Any wastewater generated on site in association with temporary, portable sanitary facilities will be periodically removed on a schedule approved by the BLM, by a licensed hauler, and introduced into an existing municipal sewage treatment facility.
- Construction activity is planned to limit noisy activities to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 7 p.m. week days).

Hydrology

- A Site Drainage Plan, a Stomwater Pollution Prevention Plan (SWPPP), and best management practices (BMPs) will be developed and utilized. Implementation of measures identified in a SWPPP would reduce impacts to hydrologic conditions. Culverts will allow current flow patterns to remain while allowing the train to travel as necessary to achieve the energy storage goal. Runoff from the facilities area will be minimize through best management practices, such as the use of gravel for vehicle areas and allowing natural vegetation to grow where is does not interfere with operations.
- ARES will implement erosion controls complying with county, state, and Federal standards, such as jute netting, silt fences, and check dams, and will secure all necessary stormwater pollution prevention plan permits.
- ARES will minimize ephemeral wash crossings by access roads and rail tracks to the extent practicable. All structures crossing intermittent streams will be located and constructed so the structures do not decrease channel stability, or increase water velocity.
- ARES will not alter existing drainage systems and will give particular care to sensitive areas such as erodible soils or steep slopes. Soil erosion shall be reduced at culvert outlets by appropriate structures. Catch basins, roadway ditches, and culverts will be cleaned and maintained.

Recreation

- Delays to public travel would be limited in frequency and duration. The exact impact has not yet been determined but will be described in future Plan of Development updates submitted to the BLM for approval.
- All existing recreation routes impacted by the proposed project would be maintained for public use. Travel routes shall be maintained by providing crossing either over or under the proposed project.

Soils

- Although application of the proposed design features would reduce impacts to soils, disturbance of 170 acres of soils as a result of the Proposed Action would remain in the short term, and disturbance of 72 acres of soils as a result of the Proposed Action would remain in the long term. The use of water or an alternative BLM-approved dust palliative on disturbed area will preserve soil by reducing wind erosion resulting from the destruction of desert pavement in disturbed areas. Culverts will be installed in the rail bed to maintain the normal passage of rainwater and reduce erosion. Weed free straw bales or waddles may also be utilized as necessary to reduce erosion from storm water runoff

during construction. The reseeding of temporary disturbance areas after construction activities have been completed will also control erosion and reduce any potential remaining impacts.

Transportation

- ARES will consult with Nye County Planning authorities, the Sheriff's Office, and other agencies, regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) will be identified and addressed in the traffic management plan.

Vegetation

- During construction, impacts would be limited to as small a footprint as possible through the use of flags to delineate boundaries. Temporary disturbance areas will be restored in accordance with BLM guidelines in order to reduce short and long-term impacts. Upon final closure of the site at the end of the project life, vegetation will be restored to comply with current BLM guidelines.
- ARES will develop an integrated vegetation management plan consistent with applicable regulations and agency policies for the control of unwanted vegetation, noxious weeds, and invasive species (E.O. 13112). The plan will address monitoring; ROW vegetation management; the use of certified weed-seed-free hay, straw, and/or mulch; the cleaning of vehicles to avoid the introduction of invasive weeds; education of personnel on weed identification, the manner in which weeds spread, and the methods for treating infestations.
- To restore disturbed habitats, ARES will prepare a habitat restoration plan to identify the approach and methods to be used to restore habitats disturbed during project construction activities. The plan will be designed to expedite the recovery to natural habitats supporting native vegetation, and require restoration to be completed as soon as practicable after completion of construction, minimizing the habitat converted at any one time. To ensure rapid and successful restoration efforts, the plan will include restoration success criteria, including time frames, which will be developed in coordination with the BLM.
- In addition, the following plans would be prepared and implemented that would further reduce impacts to vegetation:
    - Fire Protection Plan
    - Integrated Weed Management Plan
    - Decommissioning and Site Reclamation Plan

Visual Resources

- All lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives, and be directed downward and shielded to focus illumination on the desired areas. Lighting is planned to be installed at the exterior of the buildings and within the on-site substation.
- Standard rail safety lighting will be installed at the Carpenter Canyon Road crossing. This lighting will only be activated when the train is approaching the crossing. The train

shuttle cars will have lights identifying the head and tail of the train, and possibly the sides of each shuttle car (this may just be reflective items).

- Structures within the facilities area, as well as the train shuttle cars, will be colored to conform to the current BLM Standard Environmental Colors chart (Standard Environmental Color Chart CC-001: June 2013), selecting the most appropriate color to as closely as possible match the predominant background colors of the immediate area. Color selection will be a shade or two darker than the surrounding landscape to account for natural shadows, normal fading, and weathering, and be approved by the BLM.

Wild Horse and Burro

- Individuals will not harass (feed, pet, chase, etc.) wild horses and/or burros if encountered on or near the roads or work areas. If they do see any wild horses and burros, they should keep a safe distance; they are wild animals and can be unpredictable, especially during foaling and breeding season.
- No fences are anticipated, except those required for safety and security purposes around the facilities area, to avoid disrupting horse and burro free roaming to the extent possible.
- The rail line will be constructed at-grade, transmission associated with shuttle train car operation will be an overhead catenary, and the rail corridor will not be fenced; current rail corridor design will minimize impacts to the free-roaming nature of wild horses and burros.
- Current wild horse and burro mitigation measures would remain in effect unless/until BLM made changes or another use was found for the land.

Wildlife

- Litter pickup will be specifically addressed in mitigation measures for project construction and operation.
- Anti-perching devices may be installed on track side catenary poles, where practical.
- Observations by project staff of potential wildlife problems, including wildlife mortality, will be immediately reported to the applicable BLM authorized officer.
- All NDOW protocols will be followed for any NDOW protected species found during pre-construction surveys and any necessary permits would be obtained.
- Any Gila monster (state sensitive) encounters during project construction will be reported immediately to NDOW at (702) 486-5127.
- There is currently no surface water in the immediate area around the Action Area and the nearest man-made water source is more than one-quarter mile away. No standing water or ponds will be developed as part of the Proposed Project.
- Fencing will only be installed around the facilities area, for safety and security purposes, and should not impact or block any free movement of bighorn sheep or other big-game species
- To reduce impacts to bats lighting should be kept to the absolute minimum and be down lighting only.

4. COMPLIANCE

The Proposed Action conforms to the Las Vegas RMP and Record of Decision approved in October 1998. Sections that specifically apply to this Project include:

- RW-1-h, Management Direction: "All public land within the planning area, except as stated in RW-1-c through RW-1-g area available at the discretion of the agency for rights-of-way under the Federal Land Management Policy Act."

5. FINDING OF NO SIGNIFICANT IMPACT

As explained in the Finding of No Significant Impact (FONSI), the impacts of the Selected Action have been analyzed in the EA and determined not to result in significant impacts to the quality of the human environment, individually or cumulatively with other actions in the general area under NEPA.

6. CONSULTATION AND COORDINATION

Refer to Section 4, Table 4-1 of the EA (DOI-BLM-NV-S000-2015-0002-EA) for a list of Tribes, Persons, Organizations, and Agencies consulted including a summary of the findings and conclusions.

7. PUBLIC INVOLVEMENT

As required, a 30-day public comment period was provided from October 12-November 11, 2015. A public information meeting was held in Pahrump, NV on Wednesday, October 28, 2015. A summary of the comments received, responses to comments, and any changes as a result of these comments can be found in Appendix A of the FONSI.

8. DECISION RATIONALE

Based on information in the EA and consultation with my staff, we have decided to approve the selected action with the mitigation measures outlined above. This decision addresses the purpose and need for the action as it will assist with current and future grid reliability and stability issues in accordance with Federal Energy Regulatory Commission (FERC) objectives and in conformance with the objectives set forth in the Las Vegas Resource Management Plan (RMP) and Record of Decision approved in October 1998. Under Objective RW-1, the BLM is to "meet public demand and reduce impacts to sensitive resources by providing an orderly system of development for transportation, including legal access to private inholdings, communications, flood control, major utility transmission lines, and related facilities," with Management Direction RW-1-h stating, "All public land within the planning area, except as stated in RW-1-c through RW-1-g, are available at the discretion of the agency for rights-of-way under the authority of the Federal Land Policy Management Act" (FLPMA).

ADMINISTRATIVE REMEDIES

Administrative remedies may be available to those who believe they will be adversely affected by this decision. This decision may be appealed to the Interior Board of Land Appeals, Office of the Secretary, in accordance with the regulations contained in 43 CFR, Part 4 and BLM Form 1842-1. If an appeal is taken, your notice of appeal must be filed in this office (at the above address) within 30 days from receipt of this decision. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition (request) pursuant to regulation 43 CFR 2801.10 or 2881.10 for a stay (suspension) of the effectiveness of this decision during the time that your appeal is being reviewed by the Board, the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision and to the Interior Board of Land Appeals and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay

Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

(1) The relative harm to the parties if the stay is granted or denied,

(2) The likelihood of the appellant's success on the merits,

(3) The likelihood of immediate and irreparable harm if the stay is not granted, and

(4) Whether the public interest favors granting the stay.

Frederick Marcell — 2/19/2016

FOR Vanessa L. Hice, Assistant Field Manager Lands Division — Date
Las Vegas Field Office

Deborah J. MacNeill — 2/24/2016

Deborah J. MacNeill, Field Manager — Date
Pahrump Field Office

Reasonable and Prudent Measures and Terms and Conditions for the ARES Project as found in the Appended BLM Programmatic Biological Opinion (File No. 84320-2010-F-0365.R003)

RPM 1. Minimize injury and mortality of tortoises

1.a. *Field Contact Representative*—BLM shall ensure a Field Contact Representative (FCR) (also called a Compliance Inspection Contractor) is generally designated for each contiguous stretch of construction activity or isolated work areas. The FCR will serve as an agent of BLM and the Service to ensure that all instances of non-compliance or incidental take are reported. BLM has discretion over approval of potential FCRs; however, those also acting as authorized desert tortoise biologists must also be approved by the Service (see Term and Condition 1.c). All FCRs will report **directly** to BLM and the Service.

The FCR, authorized desert tortoise biologist, and monitors (see Term and Condition 1.c.) shall have a copy of all stipulations when work is being conducted on the site and will be responsible for overseeing compliance with terms and conditions of the ROW grant, including those for listed species. BLM shall ensure the FCR and authorized desert tortoise biologists have authority to halt any activity that is in violation of the stipulations. The FCR shall be onsite year-round during all project activities.

Within 3 days of employment or assignment, the project proponent and BLM shall provide the Service with the names of the FCR. An FCR is not typically required for operation and maintenance activities.

1.b. *Authorized desert tortoise biologist*—All authorized desert tortoise biologists (and monitors) are agents of BLM and the Service and shall report directed to BLM and the proponent concurrently regarding all compliance issues and take of desert tortoises; this includes all draft and final reports of non-compliance or take. The initial draft report shall be provided to BLM and Service within 24 hours of the observation of injury or mortality take or non-compliance.

An authorized desert tortoise biologist will be assigned to each piece or group of large equipment engaged in activities that may result in take of desert tortoise (for example, clearing, blasting, grading, lowering in pipe, hydrostatic testing, backfilling, recontouring, and reclamation activities) and other work areas that pose a risk to tortoises. BLM has discretion on whether to require a monitor instead of an authorized desert tortoise biologist to monitor equipment that is low risk to tortoises.

Authorized desert tortoise biologists, monitors, and the FCR (see Term and Condition 1.a.) shall be responsible for ensuring compliance with all conservation measures for the project. This responsibility includes: (1) enforcing the litter-control program; (2) ensuring that desert tortoise habitat disturbance is restricted

to authorized areas; (3) ensuring that all equipment and materials are stored within the boundaries of the construction zone or within the boundaries of previously-disturbed areas or designated areas; (4) ensuring that all vehicles associated with construction activities remain within the proposed construction zones; (5) ensuring that no tortoises are underneath project vehicles and equipment prior to use or movement; (6) ensuring that all monitors (including the authorized desert tortoise biologist) have a copy of the required measures in their possession, have read them, and they are readily available to the monitor when on the project site.

An authorized desert tortoise biologist will serve as a mentor to train desert tortoise monitors and will approve monitors if required. An authorized desert tortoise biologist is responsible for errors committed by desert tortoise monitors.

An authorized desert tortoise biologist is responsible for recording and reporting each desert tortoise handled. Information will include the following: location (GPS), date and time of observation, whether the desert tortoise was handled, general health and whether it voided its bladder, location desert tortoise was moved from and location moved to, unique physical characteristics of each tortoise, and effectiveness and compliance with the desert tortoise protection measures. This information will be provided **directly** to BLM and the Service.

Potential authorized desert tortoise biologists must submit their statement of qualifications to the Service's Southern Nevada Fish and Wildlife Office in Las Vegas for approval, allowing a minimum of 30 days for Service response. The statement form is available on the internet at: *http://www.fws.gov/nevada/desert_tortoise/auth_dt_form.htm*.

Prior to final approval to begin work on the project, the authorized desert tortoise biologists will have read the required measures (terms and conditions and other stipulations) and have a copy of the measures available at all times while on the project site. BLM shall provide the appropriate agency contact for the project to the Service and the Service will include the forms with approval letters. Biologists and monitors should be visibly identifiable on the project site, which may include use of a uniquely designated hardhat or safety vest color.

1.d. *Desert tortoise monitor*—Desert tortoise monitors assist an authorized desert tortoise biologist during surveys and serve as apprentices to acquire experience. Desert tortoise monitors ensure proper implementation of protective measures, and record and report desert tortoises and sign observations in accordance with Term and Condition 1.c. They will report incidents of noncompliance to the authorized desert tortoise biologist or FCR. No monitors shall be on the project site unless supervised by an authorized desert tortoise biologist or approved by the BLM.

If a desert tortoise is immediately in harm's way (e.g., certain to immediately be crushed by equipment), desert tortoise monitors may move the desert tortoise then place it in a designated safe area until an authorized desert tortoise biologist

assumes care of the animal.

Desert tortoise monitors may not conduct field or clearance surveys or other specialized duties of an authorized desert tortoise biologist unless directly supervised by an authorized desert tortoise biologist or approved to do so by the Service; "directly supervised" means an authorized desert tortoise biologist has direct sight and voice contact with the desert tortoise monitor (i.e., within approximately 200 feet of each other).

Within 3 days of employment or assignment, the project proponent and BLM shall provide the Service with the names of desert tortoise monitors who would assist an authorized desert tortoise biologist.

1.e. *Desert tortoise education program*—A desert tortoise education program shall be presented to all personnel on site during construction activities by an agency or authorized desert tortoise biologist. The Service, BLM, and appropriate state agencies shall approve the program. At a minimum, the program shall cover desert-specific Leave-No-Trace guidelines, the distribution of desert tortoises, general behavior and ecology of this species, sensitivity to human activities, threats including introduction of exotic plants and animals, legal protection, penalties for violation of State and Federal laws, reporting requirements, and project measures in this biological opinion). All field workers shall be instructed that activities must be confined to locations within the approved areas and their obligation to walk around and check underneath and vehicles and equipment before moving them (or be cleared by an authorized desert tortoise biologist). In addition, the program shall include fire prevention measures to be implemented by employees during project activities. The program shall instruct participants to report all observations of desert tortoise and their sign during construction activities to the FCR and authorized desert tortoise biologist.

1.f. *Vehicle travel*— Project personnel shall exercise vigilance when commuting to the project area to minimize risk for inadvertent injury or mortality of all wildlife species encountered on paved and unpaved roads leading to and from the project site. Speed limits will be clearly marked, and all workers will be made aware of these limits. Onsite, personnel shall carpool to the greatest extent possible.

During the desert tortoise less-active season (generally November through February), vehicle speed on project-related access roads and in the work area will not exceed 25 mph. All vehicles and construction equipment will be tightly grouped.

During the more active season (generally March through October), and if temperatures are above 60 but below 95°F for more than 7 consecutive days, vehicle speed on project-related access roads and in the work area will not exceed 15 mph. All vehicles and construction equipment will operate in groups of no more than three vehicles. An authorized desert tortoise biologist and desert tortoise monitor will escort or clear ahead of vehicles and equipment for ROW

travel. The escort will be on foot and clear the area of tortoises in front of each traveling construction equipment group (see *Desert tortoise clearance*). The escort will use a recreational vehicle with ground visibility (e.g., UTV); however, at least one authorized desert tortoise biologist and one desert tortoise monitor must ride together and survey both sides of the vehicle. The pace will be determined by an authorized desert tortoise biologist and shall be slow enough to ensure adequate inspection.

New access and spur road locations will be sited to avoid potentially active tortoise burrows to the maximum extent practicable.

1.g. *Unauthorized access*—BLM shall ensure that unauthorized personnel, including the public and off-duty project personnel, do not travel on project-related temporary access roads, to the greatest extent practicable.

During the more-active season (generally March through October), and if temperatures are above 60 but below 95°F for more than 7 consecutive days, project- and non-project-related activities on all access roads that intersect the ROW will be monitored and logged. During construction, the ROW will be fenced at public roads that intersect the ROW. Signs will say that access on the ROW is strictly prohibited except by authorized personnel and that violators will be prosecuted.

1.h. *Desert tortoise clearance*—Prior to surface-disturbing activities, authorized desert tortoise biologists potentially assisted by desert tortoise monitors, shall conduct a clearance survey to locate and remove all desert tortoises from harm's way including areas to be disturbed using techniques that provide full coverage of all areas (Service 2009). During the more-active season, clearance surveys will be conducted either the day prior to, or the day of, any surface-disturbing activity. During the less-active season, clearance surveys will be conducted within 7 days prior to any surface-disturbing activity. No surface-disturbing activities shall begin until two consecutive surveys yield no individuals.

An authorized biologist shall excavate all burrows that have characteristics of potentially containing desert tortoises in the area to be disturbed with the goal of locating and removing all desert tortoises and tortoise eggs. During clearance surveys, all handling of desert tortoises and their eggs and excavation of burrows shall be conducted solely by an authorized desert tortoise biologist in accordance with the most current Service-approved guidance (currently Service 2009). If any active tortoise nests are encountered, the Service must be contacted immediately, prior to removal of any tortoises or eggs from those burrows, to determine the most appropriate course of action. Unoccupied burrows shall be collapsed or blocked to prevent desert tortoise entry. Outside construction work areas, all potential tortoise burrows and pallets within 50 feet of the edge of the construction work area shall be flagged. If the burrow is occupied by a tortoise during the less active season, the tortoise shall be temporarily penned (see Term and Condition 1.k.). No stakes or flagging shall be placed on the berm or in the

opening of a desert tortoise burrow. Desert tortoise burrows shall not be marked in a manner that facilitates poaching. Avoidance flagging shall be designed to be easily distinguished from access route or other flagging, and shall be designed in consultation with experienced construction personnel and authorized biologists. All flagging shall be removed following construction activities.

An authorized desert tortoise biologist will inspect areas to be backfilled immediately prior to backfilling.

1.i. *Desert tortoise in harm's way*—Any project-related activity that may endanger a desert tortoise shall cease if a desert tortoise is seen on the project site. Project activities may resume after an authorized desert tortoise biologist or desert tortoise monitor (see restrictions in Term and Condition 1.d.) removes the desert tortoise from danger or after the tortoise has moved to a safe area on its own.

During the more-active season and if temperatures are above 60 but below 95°F for more than 7 consecutive days, at least 1 monitor shall be assigned to observe spoil piles prior to excavation and covering.

1.j. *Handling of desert tortoises*—Desert tortoises shall only be moved by an authorized desert tortoise biologist or desert tortoise monitor (see restrictions in Term and Condition 1.d.) solely for the purpose of moving the tortoises out of harm's way. During construction, operation, and maintenance, an authorized desert tortoise biologist shall pen, capture, handle, and relocate desert tortoises from harm’s way as appropriate and in accordance with the most current Service-approved guidance. No tortoise shall be handled by more than one person. Each tortoise handled will be given a unique number, photographed, and the biologist will record all relevant data on the Desert Tortoise Handling and Take Report (Appendix E of PBO) to be provided to BLM in accordance with the project reporting requirements.

Desert tortoises that occur aboveground and need to be moved from harm's way shall be placed in the shade of a shrub, 150 to 1,640 feet from the point of encounter. In situations where desert tortoises must be moved more than 1,640 feet, translocation procedures may be required. Translocation would likely result in a level of effect to the desert tortoise that would require appending this biological opinion.

If desert tortoises need to be moved at a time of day when ambient temperatures could harm them (less than 40°F or greater than 95°F), they shall be held overnight in a clean cardboard box. These desert tortoises shall be kept in the care of an authorized biologist under appropriate controlled temperatures and released the following day when temperatures are favorable. All cardboard boxes shall be discarded after one use and never hold more than one tortoise. If any tortoise active nests are encountered, the Service must be contacted immediately, prior to removal of any tortoises or eggs from those burrows, to determine the most appropriate course of action.

Desert tortoises located in the project area sheltering in a burrow during the less-active season may be temporarily penned in accordance with Term and Condition 1.k. at the discretion of an authorized desert tortoise biologist. Desert tortoises should not be penned in areas of moderate to heavy public use, rather they should be moved from harm's way in accordance with the most current Service-approved guidance (currently Service 2009).

Desert tortoises shall be handled in accordance with the Desert Tortoise Field Manual (Service 2009). Equipment or materials that contact desert tortoises (including shirts and pants) shall be sterilized, disposed of, or changed before contacting another tortoise to prevent the spread of disease. All tortoises shall be handled using disposable surgical gloves and the gloves shall be disposed of after handling each tortoise. An authorized desert tortoise biologist shall document each tortoise handling by completing the Desert Tortoise Handling and Take Report (Appendix E of the PBO).

1.k. *Penning*—Penning shall be accomplished by installing a circular fence, approximately 20 feet in diameter to enclose and surround the tortoise burrow. The pen should be constructed with 1-inch horizontal by 2-inch vertical, galvanized welded wire. Steel T-posts or rebar should be placed every 5 to 6 feet to support the pen material. Pen material will extend 18 to 24 inches aboveground. The bottom of the enclosure will be buried 6 to 12 inches or bent towards the burrow, have soil mounded along the base, and other measures implemented to ensure zero ground clearance. Care shall be taken to minimize visibility of the pen by the public. An authorized desert tortoise biologist or desert tortoise monitor shall check the pen at a frequency to ensure that the desert tortoise is secure and not stressed. No desert tortoise shall be penned for more than 48 hours without written approval by the Service. All instances of penning or issues associated with penning shall be reported to the Service within 3 days (see Appendix E of the PBO).

1.l. *Temporary tortoise-proof fencing*—All construction areas, including open pipeline trenches, hydrostatic testing locations, and tie-in work shall be fenced with temporary tortoise-proof fencing (e.g., silt fencing) or inspected by an authorized desert tortoise biologist periodically throughout and at the end of the day and immediately the next morning. BLM and the Service will determine the appropriate length of open trench that will be allowed on the project.

Fencing will be designed in a manner that reduces the potential for desert tortoises and hatchlings to access the construction areas. Thus, the lower 6 to 12 inches of fencing will be folded outward (i.e., away from the construction area and towards the direction a tortoise would approach the work area), and covered with sufficient amount of soil, rocks, and staking to maintain zero ground clearance and secure the bottom section of material. An authorized desert tortoise biologist will check the integrity of the fencing every 2 hours and ensure that there are no breaches in the fencing and no desert tortoises pacing the fence. After the fencing

is erected and secure, the inside will be cleared by an authorized desert tortoise biologist. The fencing must remain closed during any construction activities.

1.m. *Permanent tortoise-proof fencing*—Tortoise-proof fencing shall be installed around the boundary of permanent aboveground facilities that require regular monitoring and maintenance and other areas as directed by the BLM or Service. Fence specifications will be consistent with those approved by the Service (Service 2009). Tortoise guards shall be placed at all road access points where desert tortoise-proof fencing is interrupted, to exclude desert tortoises from the facility. Gates shall provide minimal ground clearance and deter ingress by desert tortoises. Permanent tortoise-proof fencing along the project area shall be appropriately constructed, monitored, and maintained. Fencing shall be inspected in accordance with Table 1 and reports prepared in accordance with Term and Condition 7.c. unless modified by the Service. Monitoring and maintenance shall include regular removal of trash and sediment accumulation and restoration of zero ground clearance between the ground and the bottom of the fence, including re-covering the bent portion of the fence if not buried.

Table 1. Desert tortoise fence inspection requirements

Condition	**Minimum Requirements**
First week following fence installation; tortoises active	Inspect fence perimeter, tortoise guards, and gates twice per day, timed to occur when tortoises may be pacing the fenceline.
First week following fence installation; tortoises inactive	Inspect fence perimeter, tortoise guards, and gates once per day.
Beginning the second week following fence construction, tortoises active	Inspect fence perimeter, tortoise guards, and gates once per day.
Beginning the second week following fence construction, tortoises inactive	Inspect fence perimeter, tortoise guards, and gates once per month.
Following major storm event, tortoises active	Inspect fence perimeter, tortoise guards, and gates within 48 hours.
Following major storm event, tortoises inactive	Inspect fence perimeter, tortoise guards, and gates within 72 hours.
Breach in fence observed, tortoise guard or gate requires maintenance, tortoises active	Repair within 48 hours of breach occurrence.
Breach in fence observed, tortoise guard or gate requires maintenance, tortoises inactive	Repair within 1 week of breach occurrence.

1.n. *Wildlife escape ramps*—Earthen plugs, with wildlife escape ramps on either side of the plug, will be provided in open trench segments at no greater than every 0.25 mile. These distances will be reduced if the FCR and authorized desert tortoise biologist determine that the plug and escape ramp spacing is insufficient to facilitate animal escape from the trench. Any tortoise that is found in a trench or excavation shall be promptly removed by an authorized desert tortoise biologist in accordance with the most current Service-approved guidance. If the authorized

desert tortoise biologist is not allowed to enter the trench for safety reasons, the alternative method of removal must have prior approval by the Service.

1.o. *Dust control*—Water applied for dust control shall not be allowed to pool outside desert-tortoise fenced areas, as this can attract desert tortoises. Similarly, leaks on water trucks and water tanks will be repaired to prevent pooling water. An authorized desert tortoise biologist will be assigned to patrol each area being watered immediately after the water is applied and at approximate 60-minute intervals until the ground is no longer wet enough to attract tortoises if conditions favor tortoise activity.

1.p. *Blasting*—If blasting is required in desert tortoise habitat, detonation shall only occur after the area has been surveyed and cleared by an authorized desert tortoise biologist. A 200-foot radius area around the blasting site shall be surveyed and all desert tortoises aboveground within this 200-foot radius of the blasting site shall be moved 500 feet from the blasting site, placed in unoccupied burrow, and temporarily penned (see Term and Condition 1.k.) to prevent tortoises that have been temporarily relocated from returning to the site. Tortoises in burrows would be left in their burrows. All burrows, regardless of occupied status, will be stuffed with newspapers, flagged, and location recorded using a GPS unit. Immediately after blasting, newspaper and flagging will be removed. If a burrow or coversite has collapsed which could be occupied, it shall be excavated to ensure that no tortoises have been buried and are in danger of suffocation.

1.q. *Ravens and Raptors*— Transmission line support structures and other facility structures shall be designed to discourage their use by ravens and raptors for perching or nesting (e.g., by use of anti-perching devices) in accordance with the most current Avian Power Line Interaction Committee guidelines (see terms and conditions 2.b and 2.c.).

1.r. *Timing of construction*—The BLM shall ensure that when possible, the project proponent schedules and conducts construction, operation, and maintenance activities within desert tortoise habitat during the less-active season (generally October 31 to March 1) and during periods of reduced desert tortoise activity (typically when ambient temperatures are less than 60 or greater than 95°F). All vehicles and equipment that are not in areas enclosed by desert tortoise exclusion fencing will stop activities in desert tortoise habitat during rainfall events in the more-active season (generally March 1 to October 31), and if temperatures are above 60 but below 95°F for more than 7 consecutive days. The FCR or designee will determine, in coordination with the BLM and Service, when it is appropriate for project activities to continue.

RPM 2. Predator control.

2.a. *Litter control*—A litter control program shall be implemented to reduce the attractiveness of the area to opportunistic predators such as desert kit foxes, coyotes, and common ravens. Trash and food items will be disposed of properly

in predator-proof containers with predator-proof lids. Trash containers will be emptied and construction waste will be removed daily from the project area and disposed of in an approved landfill.

2.b. *Deterrence*—The project proponent will implement measures to discourage the presence of predators on site (coyotes, ravens, etc.), including elimination of available water sources, designing structures to discourage potential nest sites, and use of hazing to discourage raven presence.

2.c. *Monitoring and predator control*—The project proponent will monitor for the increased presence of ravens and other potential human-subsidized predators in the vicinity of the project area. A qualified biologist (not necessarily an authorized desert tortoise biologist) shall conduct monthly nest surveys of potential nest sites (*e.g.*, power transmission towers/poles) during the raven breeding season (generally February 1 to April 30) and document the presence of all nests and the species using them. During these monthly surveys, an authorized biologist will also document any sign of predation of desert tortoises below the nest and in the vicinity of the transmission line. If sign of predation is found under a nest, control measures will be implemented in coordination with the Service. The frequency of these nest surveys may be modified as agreed upon by BLM and the Service.

RPM 3. Impacts to tortoise habitat.

3.a. *Habitat protection plans*—BLM shall ensure that the applicants develop and implement an approved fire prevention and response plan, erosion control plan, and a weed management plan approved by BLM prior to surface disturbance.

3.b. *Restoration plan*—BLM shall ensure that the applicant develop and implement a restoration/reclamation plan. The plan will describe objectives and methods to be used, species of native plants and seed mixture to be used, time of planting, success standards, actions to take if restoration efforts fail to achieve the success standards, and follow-up monitoring. The plan will be prepared and approved prior to the surface disturbance phase of the project.

3.c. *Minimizing new disturbance*—Cross-country travel outside designated areas shall be prohibited. Native vegetation will be left in place wherever possible. All equipment, vehicles, and construction materials shall be restricted to the areas designated prior to project activities and new disturbance will be restricted to the minimum necessary to complete the task. All work area boundaries shall be conspicuously staked, flagged, or otherwise marked to minimize surface disturbance activities. To the maximum extent possible, access to splicing and tensioning site will occur by overland travel (no blading). The FCR shall ensure that blading is conducted only when necessary.

3.d. *Weed prevention*—Vehicles and equipment shall be cleaned with a high pressure washer prior to arrival in desert tortoise habitat and prior to departure from areas

of known invasive weed and nonnative grass infestations to prevent or at least minimize the introduction or spread these species.

3.e. *Chemical spills*—Hazardous and toxic materials such as fuels, solvents, lubricants, and acids used during construction will be controlled to prevent accidental spills. Any leak or accidental release of hazardous and toxic materials will be stopped immediately and cleaned up at the time of occurrence. Contaminated soils will be removed and disposed at an approved landfill site.

3.f. *Residual impacts from disturbance*—BLM shall collect remuneration fees to offset residual impacts to desert tortoises from project-related disturbance to desert tortoise habitat.

Remuneration fees will be used for management actions expected to promote recovery of the desert tortoise over time, including management and recovery of desert tortoise in Nevada. Actions may involve habitat acquisition, population or habitat enhancement, increasing knowledge of the species' biological requirements, reducing loss of individual animals, documenting the species status and trend, and preserving distinct population attributes. Fees will be used to fund the highest priority recovery actions for desert tortoises in Nevada.

The current base rate is $843 per acre of disturbance, as indexed for inflation, effective March 1, 2015. The next adjustment will become $849 per acre effective March 1, 2016. The fee rate will be indexed for inflation based on the Bureau of Labor Statistics Consumer Price Index for All Urban Consumers (CPI-U) on January 31st of each year, becoming effective March 1st. Fees assessed or collected for projects covered under this BiOp will be adjusted based on the current CPI-U for the year they are collected. Information on the CPI-U can be found on the internet at: *http://stats.bls.gov/news.release/cpi.nws.htm*.

RPM 7. Compliance and reporting.

7.a. *Desert tortoise deaths*—The deaths and injuries of desert tortoises shall be investigated as thoroughly as possible to determine the cause. The Service and appropriate state wildlife agency must be verbally informed immediately and within 5 business days in writing (electronic mail is sufficient). The Authorized Desert Tortoise Biologist shall complete the Desert Tortoise Handling and Take Report (Appendix E of the PBO).

7.b. *Non-compliance*—Any incident occurring during project activities that was considered by the FCR, authorized desert tortoise biologist, or biological monitor to be in non-compliance with this biological opinion shall be immediately documented by an authorized desert tortoise biologist. Documentation shall include photos, GPS coordinates, and details on the circumstances of the event. The incident will be included in the annual report and post-project report.

7.c. *Fence inspection*—Quarterly reports (January-March, April-June, July-September, and October –December) for monitoring and repair of tortoise-proof fencing as

specified in Table 1, shall be submitted to the Service's Southern Nevada Fish and Wildlife Office in Las Vegas. Reports are due within the first 30 days following each quarter. For example, the report for quarter January-March is due April 30).

7.d. *Project reporting requirements*—Quarter (non-appended actions), annual, and comprehensive final project reports will be submitted to BLM and the Service's Nevada Fish and Wildlife Office in Las Vegas. Annual reports are required for all appended actions (except those completed and provided in a prior annual report). Annual reports will cover the calendar year and are due April 1st of the following year (*e.g.*, the annual report for calendar year 2013 is due April 1, 2014). Quarterly reports for non-appended actions are due 15 calendar days following the quarter. Final project reports are due within 60 days following completion of the project or each phase of the project.

The Programmatic Biological Opinion Report to the Fish and Wildlife Service provided in Appendix G of the PBO will be used for quarterly, annual, and final project reports, and shall include all Desert Tortoise Handling and Take Reports (Appendix E of the PBO). If available, GIS shape files will be included.

7.e. *Operation and maintenance*—A written assessment report shall be submitted annually to the Service outlining the operation and maintenance activities that occurred over the past year.

Report to include: It will include frequency of implementation of minimization measures, biological observations, general success of each of the minimization measures. All deaths, injuries, and illnesses of endangered or threatened species within the project area, whether associated with project activities or not, will be summarized in the annual report. The report is due April 1 of each year.

7.f. *Restoration monitoring* – Vegetation restoration success shall be monitored by project proponent and reported to BLM and the Service. Monitoring will include both qualitative and quantitative data collection and analysis. Monitoring frequency and parameters for restoration success will be described in the required restoration/reclamation plan.

7.g. *Connectivity Structure Monitoring* – The drainage culverts, tortoise underpasses, and under-rail escapes shall be inspected at least quarterly, particularly following precipitation, and maintained in perpetuity. Monitoring and maintenance will include regular removal of trash, sediment, and vegetation accumulation and restoration of tortoise assess to underpass structures.

INTERAGENCY OPERATING PROCEDURES

A.1 PROJECT PLANNING

Regulatory Compliance

1. The appropriate agency, assisted by the applicant, must conduct project-specific NEPA analyses in compliance with Section 102 of NEPA. The scope, content, and type of analysis shall be determined on a project-by-project basis by the Agencies and the applicants.
2. The appropriate agency, assisted by the project applicant, must comply with Section 106 of the NHPA on a project-by-project basis. Consultation with SHPOs, any federally recognized Tribes, and other appropriate parties as per regulations (36 CFR 800) must begin early in the planning process and continue throughout project development and execution. The ACHP retains the option to comment on all undertakings (36 CFR 800.9).
3. The appropriate agency, assisted by the project applicant, must consult with the USFWS and the NMFS as required by Section 7 of ESA. The specific consultation requirements, as set forth in regulations at 50 CFR Part 402, would be applied on a project-by-project basis. Applicants shall identify known occupied sites, such as nest sites, for threatened and endangered species and special status species (BLM 2008).
4. The appropriate agency, assisted by the project applicant, must coordinate and consult with NMFS regarding potential impacts to essential fish habitat (EFH) as required by the 1996 reauthorization of the Magnuson-Stevens Fishery Conservation and Management Act.

Agency Coordination

1. Applicants seeking to develop energy transport projects within corridors located on or near DOD facilities or flight training areas (see Appendix L of the PEIS for applicable corridors) must, early in the planning process and in conjunction with the appropriate agency staff, inform and coordinate with the DOD regarding the characteristics and locations of the anticipated project infrastructure.
2. Early in the planning process, applicants seeking a ROW authorization within a Section 368 energy corridor that is located within 5 miles of a unit of the NPS should contact the appropriate Agency staff and work with the NPS regarding the characteristics and locations of anticipated project infrastructure. In those instances where corridors cross lands within the boundaries of a unit of the NPS, the National Park Service Organic Act and other relevant laws and policies shall apply.
3. In those instances where projects using energy corridors are proposed to also cross National Wildlife Refuge System lands, the National Wildlife System Administration Act and other relevant laws and policies pertinent to national wildlife refuges shall apply.

4. For electricity transmission projects, the applicant shall notify the Federal Aviation Administration (FAA) as early as practicable in the planning process in order to identify appropriate aircraft safety requirements.
5. All project applications must reflect applicable findings, mitigation, and/or standards contained in regional land management plans, such as the Northwest Forest Plan, when such regional plans have been incorporated into agency planning guidelines and requirements. Modification of some standards may be needed to reasonably allow for energy transport within a corridor.

Government-to-Government Consultation

1. The appropriate agency, assisted by the project applicant, must initiate government-to-government consultation with affected Tribes at the outset of project planning and shall continue consultation throughout all phases of the project, as necessary. Agencies should determine how to consult in a manner that reflects the cultural values, socioeconomic factors, and administrative structures of the interested Tribes.

2. The agency POC may require the project proponent to prepare an ethnographic study when Tribal consultation indicates the need. The study shall be conducted by a qualified professional selected in consultation with the affected Tribe.

General

1. Applicants seeking to develop an electricity transmission or pipeline project will develop a project-specific plan of development (POD). The POD should display the location of the project infrastructure (i.e., towers, power lines) and identify areas of short- and long-term land and resource impacts and the mitigation measures for site-specific and resource-specific environmental impacts. The POD should also include notification of project termination and decommissioning to the agencies at a time period specified by the agencies.

2. Applicants, working with the appropriate agencies, shall design projects to comply with all appropriate and applicable agency policies and guidance.

3. Project planning shall be based on the current state of knowledge. Where corridors are subject to sequential projects, project-related planning (such as the development of spill-response plans, cultural resource management plans, and visual resource management plans) and project-specific mitigation and monitoring should incorporate information and lessons learned from previous projects.

4. Applicants shall follow the best management practices for energy transport project siting, construction, and operations of the states in which the proposed project would be located, as well as Federal agency practices.

5. Corridors are to be efficiently used. The applicant, assisted by the appropriate agency, shall consolidate the proposed infrastructure, such as access roads, wherever possible and utilize existing roads to the maximum extent feasible, minimizing the number, lengths, and widths of roads, construction support areas, and borrow areas.

6. When concurrent development projects are proposed and implemented within a corridor, the agency POCs shall coordinate the projects to ensure consistency with regard to all regulatory compliance and consultation requirements, and to avoid duplication of effort.

7. Applicants, assisted by the appropriate agency, shall prepare a monitoring plan for all project-specific mitigation activities.

8. Potential cumulative impacts to resources should be considered during the early stages of the project. Agency POCs must coordinate various development projects to consider and minimize cumulative impacts. A review of resource impacts resulting from other projects in the region should be conducted and any pertinent information be considered during project planning.

Project Design

1. Applicants shall locate desired projects within energy corridors to promote effective use of the corridors by subsequent applicants and to avoid the elimination of use or encumbrance of use of the corridors by ROW holders. Proposed projects should be compatible with identified energy transport modes and avoid conflicts with other land uses within a corridor.

2. Applicant shall identify and delineate existing underground metallic pipelines in the vicinity of a proposed electricity transmission line project and design the project to avoid accelerating the corrosion of the pipelines and/or pumping wells.

Transportation

1. The applicant shall prepare an access road siting and management plan that incorporates relevant agency standards regarding road design, construction, maintenance, and decommissioning. Corridors will be closed to public vehicular access unless determined by the appropriate Federal land manager to be managed as part of an existing travel and transportation network in a land use plan or subsequent travel management plan(s).

2. The applicant shall prepare a comprehensive transportation plan for the transport of transmission tower or pipeline components, main assembly cranes, and other large equipment. The plan should address specific sizes, weights, origin, destination, and unique equipment handling requirements. The plan should evaluate alternative transportation routes and should comply with state regulations and all necessary permitting requirements. The plan should address site access roads and eliminate hazards from truck traffic or adverse impacts to normal traffic flow. The plan should include

measures such as informational signage and traffic controls that may be necessary during construction or maintenance of facilities.

3. Applicants shall consult with local planning authorities regarding increased traffic during the construction phase, including an assessment of the number of vehicles per day, their size, and type. Specific issues of concern (e.g., location of school bus routes and stops) should be identified and addressed in the traffic management plan.

Groundwater

1. Applicants must identify and delineate all sole source aquifers in the vicinity of a proposed project and design the project to avoid disturbing these aquifers or to minimize potential risks that the aquifers could be contaminated by spills or leaks of chemicals used in the projects.

2. In instances where a project within an energy corridor crosses sole source aquifers, the applicant must notify the U.S. Environmental Protection Agency (EPA) and the agencies that administer the land as early as practicable in the planning process. Section 1424(e) of the Safe Drinking Water Act (42 USC Chapter 6A) and other relevant laws and policies pertinent to the corridors that cross sole source aquifers shall apply.

Surface Water

1. Applicants must identify all wild and scenic rivers (designated by act of Congress or by the Secretary of the Interior under Section 3(a) or 2(a)(ii) of the Wild and Scenic Rivers Act (16 USC 1271-1287), respectively), congressionally authorized wild and scenic study rivers, and agency identified (eligible or suitable) wild and scenic study rivers in the vicinity of a proposed project and design the project to avoid the rivers or mitigate the disturbance to the rivers and their vicinity.

2. In instances where a project within an energy corridor crosses a wild and scenic river or a wild and scenic study river, the appropriate Federal permitting agency, assisted by the project applicant, must coordinate and consult with the river-administrating agency regarding the protection and enhancement of the river's free-flowing condition, water quality, and outstandingly remarkable natural, cultural, and recreational values.

3. Applicants shall identify all streams in the vicinity of proposed project sites that are listed as impaired under Section 303(d) of the Clean Water Act (33 USC Chapter 26) and provide a management plan to avoid or mitigate adverse impacts on those streams.

Paleontological Resources

1. The applicant shall conduct an initial scoping assessment to determine whether construction activities would disturb formations that may contain important paleontological resources. Potential impacts to significant paleontological resources should be avoided by moving or rerouting the site of construction or removing or

reducing the need for surface disturbance. When avoidance is not possible, a mitigation plan should be prepared to identify physical and administrative protective measures and protocols such as halting work, to be implemented in the event of fossil discoveries. The scoping assessment and mitigation plan should be conducted in accordance with the managing agency's fossil management practices and policies.

2. If significant paleontological resources are known to be present in the project area, or if areas with a high potential to contain paleontological material have been identified, the applicant shall prepare a paleontological resources management and mitigation plan. If adverse impacts to paleontological resources cannot be avoided or mitigated within the designated corridors, the agency may consider alternative development routes to avoid, minimize, or mitigate adverse effects.

3. A protocol for unexpected discoveries of significant paleontological resources should be developed. Unexpected discovery during construction should be brought to the immediate attention of the responsible Federal agency's authorized officer. Work should be halted in the vicinity of the discovery to avoid further disturbance of the resource while the resource is being evaluated and appropriate mitigation measures are being developed.

Ecological Resources

1. Applicants shall identify important, sensitive, or unique habitats and BLM-special status species (BLM 2008), FS-sensitive, and state-listed species in the vicinity of proposed projects and design the project to avoid or mitigate impacts to these habitats and species.

2. To restore disturbed habitats, the applicant will prepare a habitat restoration plan that identifies the approach and methods to be used to restore habitats disturbed during project construction activities. The plan will be designed to expedite the recovery to natural habitats supporting native vegetation, and require restoration to be completed as soon as practicable after completion of construction, minimizing the habitat converted at any one time. To ensure rapid and successful restoration efforts, the plan will include restoration success criteria, including time frames, which will be developed in coordination with the appropriate agency and which must be met by the applicant. Bonding to cover the full cost of restoration will be required.

3. In consultation with the U.S. Army Corps of Engineers, the appropriate agency, assisted by the project applicant, will identify wetlands (including ephemeral, intermittent, and isolated wetlands), riparian habitats, streams, and other aquatic habitats in the project area and design the project to avoid or mitigate impacts to these habitats.

Vegetation Management

1. Applicants shall develop an integrated vegetation management plan consistent with applicable regulations and agency policies for the control of unwanted vegetation, noxious weeds, and invasive species (E.O. 13112). The plan should address monitoring;

ROW vegetation management; the use of certified weed-seed-free hay, straw, and/or mulch; the cleaning of vehicles to avoid the introduction of invasive weeds; education of personnel on weed identification, the manner in which weeds spread, and the methods for treating infestations (BLM 2006, 2007a,b, 2008).

Cultural Resources

1. Cultural resources management services and individuals providing those services shall meet the Secretary of the Interior's Standards for Archeology and Historic Preservation, 48 FR 44716 (Sept. 29, 1983).

2. The project applicant may, with the approval of the agency POC, assign a Cultural Resource Coordinator to ensure an integrated compliance process across administrative and jurisdictional boundaries. The Cultural Resource Coordinator will facilitate and coordinate compliance with multiple laws, policies, regulations, and existing pertinent agreements (PAs, MOAs, or MOUs) among multiple agencies and other entities, jurisdictions, and federally recognized Tribes. The coordinator may assist with development of pertinent agreements among concerned parties during the course of the project. The coordinator shall be a qualified professional with experience in cultural resource compliance. Where appropriate, the Cultural Resource Coordinator may also serve as the Tribal Coordinator. Alternatively, the agency POC may assign such coordinators, to be paid for through project cost-recovery funds. The agencies, through the POC, remain responsible for consultation.

3. The project applicant may, with the approval of the agency POC, assign a Tribal Coordinator to facilitate and coordinate consultation and compliance with multiple laws, agencies, and Tribes in order to ensure effective government-to-government consultation throughout the life of the project. Alternatively, the agency POC may assign such coordinators, to be paid for through project cost-recovery funds. The agencies, through the POC, remain responsible for consultation.

4. All historic properties in the Area of Potential Effect (APE) will be identified and evaluated. The APE shall include that area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties and shall include a reasonable construction buffer zone and laydown areas, access roads, and borrow areas, as well as a reasonable assessment of areas subject to effects from visual, auditory, or atmospheric impacts, or impacts from increased access.

5. Project proponents must develop a cultural resources management plan (CRMP) to outline the process for compliance with applicable cultural resource laws during pre-project planning, management of resources during operation, and consideration of the effect of decommissioning. The CRMPs should meet the specifications of the appropriate agency and address compliance with all appropriate laws. The CRMPs should include the following, as appropriate: identification of the federally recognized Tribes, State Historic Preservation Offices (SHPOs), and consulting parties for the project; identification of long- and short-term management goals for cultural resources within the APE of the

project; the definition of the APE; appropriate procedures for inventory, evaluation, and identification of effects to historic properties; evaluation of eligibility for the National Register of Historic Places (NRHP) for all resources in the APE; description of the measures to avoid, minimize, or mitigate adverse effects to historic properties; procedures for inadvertent discovery; procedures for considering Native American Graves Protection and Repatriation Act (NAGPRA) issues, monitoring needs, and plans to be employed during construction; curation procedures; anticipated personnel requirements and qualifications; public outreach and interpretation plans; and discussion of other concerns. The draft CRMP should be reviewed and approved by the agency POC in consultation with historic preservation partners, including appropriate SHPOs, Tribes, and consulting parties. The CRMPs must specify procedures that would be followed for compliance with cultural resource laws should the project change during the course of implementation.

6. Project applicants will provide cultural resources training for project personnel regarding the laws protecting cultural resources, appropriate conduct in the field (such as procedures for the inadvertent discovery of human remains), and other project-specific issues identified in the CRMP. Training plans should be part of the CRMP and should be subject to the approval of the POC. When government-to-government consultation identifies the need and the possibility, Tribes may be invited to participate in or contribute to relevant sessions.

7. If adverse effects to historic properties will result from a project, a Historic Property Treatment Plan will be developed in consultation with the SHPO, the appropriate federally recognized Tribes, and any consulting parties. The plan will outline how the impacts to the historic properties would be mitigated, minimized, or avoided. Agency officials will give full consideration to the applicable mitigation measures found in Section 3.10.5.2 of the Final PEIS when consulting during the project pre-planning stages to resolve adverse effects on historic properties.

8. As directed by the agency POC, project proponents will prepare a public education and outreach component regarding project-related cultural resource issues (e.g., discoveries, impacts) such as a public presentation, a news article, a publication, or a display. Public education and outreach components will be subject to Agency approval and Tribal review and consultation when the content or format is of interest to affected Tribes.

9. Cultural resources inventory, evaluation, and mitigation practices should incorporate modeling and sampling strategies to the extent practicable, in concurrence with SHPOs and other relevant parties, and as approved by the agency POC.

10. Project applicants shall provide all cultural resources reports and data in an electronic format that is approved by the Agency POC and integrated across jurisdictional boundaries, that meets current standards, and that is compatible with SHPO systems. The Agency will submit this data to the SHPO in a timely fashion. Project proponents should submit cultural resources data on a regular basis to ensure that SHPO systems are kept up

to date for reference as the different phases of the project proceed. Paper records may also be required by the agency.

11. Cultural resources inventory procedures, specified in the CRMP, will include development of historic contexts based on the Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716) sufficient to support the evaluation of cultural resources encountered in the APE.

Tribal Traditional Cultural Resources

1. The appropriate agency, assisted by the applicant, must comply with all laws, policies, and regulations pertaining to government-to-government consultation with federally recognized Tribes. Agencies shall initiate consultation with affected Tribes at the outset of project planning and shall continue consultation throughout project planning, construction, operation, and decommissioning. Consultation shall include, but not be limited to, the following: (a) identification of potentially affected Tribes; (b) identification of appropriate Tribal contacts and the preferred means of communication with these Tribes; (c) provision to the Tribes of project-specific information (e.g., project proponents, maps, design features, proposed ROW routes, construction methods, etc.) at the outset of project planning and throughout the life of the project; (d) identification of issues of concern specific to affected Tribes (e.g., potential impacts to culturally sensitive areas or resources, hazard and safety management plans, treaty reserved rights and trust responsibilities); (e) identification of areas and resources of concern to Tribes; and (f) resolution of concerns (e.g., actions to avoid, minimize, or mitigate impacts to important resources; Memoranda of Agreement stating what actions would be taken to mitigate project effects; or agreements for Tribal participation in monitoring efforts or operator training programs).

2. The appropriate agency, assisted by the applicant, must comply with all pertinent laws, policies, and regulations addressing cultural and other resources important to Tribes, including the NHPA, the Archaeological Resources Protection Act (ARPA), the Native American Graves Protection Act (NAGPRA), and other laws and regulations as listed in Table 3.11-2 in Volume I of the PEIS.

3. The agencies shall recognize the significance to many Tribes of traditional cultural places, such as sacred sites, sacred landscapes, gathering grounds, and burial areas, and shall seek to identify such areas through consultation with affected Tribes early in the project planning process. Agencies shall seek to avoid, minimize, or mitigate impacts to such places in consultation with the Tribes, project proponents, and other relevant parties. Where confidentiality concerning these areas is important to an affected Tribe, agencies shall honor such confidentiality unless the Tribe agrees to release the information.

4. A protocol must be developed for inadvertent discovery of Native American human remains and funerary items to comply with the NAGPRA in consultation with appropriate federally recognized Tribes. Unexpected discovery of such items during construction must be brought to the immediate attention of the responsible Federal

agency's authorized officer. Work must be halted in the vicinity of the find of Native American graves and funerary items to avoid further disturbance to the resources while they are being evaluated and appropriate mitigation measures are being developed. The procedures for reporting items covered under NAGPRA must be identified in the CRMP.

Visual Resources

1. Applicants shall identify and consider visual resource management (VRM) and scenery management (SMS) issues early in the design process to facilitate integration of VRM and scenery treatments into the overall site development program and construction documents. Visual/scenery management considerations, environmental analyses, mitigation planning, and design shall reference and be in accordance with the land management agency visual/scenery management policies and procedures applicable to the jurisdiction the project lies within. Applicants shall coordinate between multiple agencies on visual/scenery sensitive issues when projects transition from one jurisdiction to another, especially when transitions occur within a shared viewshed.

2. Applicants shall prepare a VRM or scenery management plan. The applicant's planning team shall include an appropriately trained specialist, such as a landscape architect with demonstrated VRM and/or scenery management system (SMS) experience. The VRM/SMS specialist shall coordinate with the BLM/FS on the availability of the appropriate visual or scenic inventory data, VRM management class delineations, Scenic Integrity Objectives (SIOs), and Federal agency expectations for preparing project plans and mitigation strategies to comply with RMP or LRMP direction related to scenery and/or visual resources. Applicants shall confirm that a current Visual Resource Inventory and/or Scenic Class inventory is available and that the resource management plan (RMP) or land resource and management plan (LRMP) VRM classifications or SIOs have been designated in the current land management plan. Project plans shall abide by the VRM class designations and SIOs and consider sensitivities defined within the visual or scenic resource inventory. If visual or scenic management objectives are absent, then the proper inventory and classification process shall be followed to develop them in accordance with the BLM VRM manual and handbooks or FS SMS process, depending on the agency. When the VRM management classes or SIOs are absent, then the project alternatives must reflect a range of management options related to scenery and visual resources that reflect the values identified in the visual/scenic inventory. Responsibility for developing an inventory or VRM management classes (or in the case of the FS, Scenic Classes and SIOs) will remain with the respective agency, but how to accomplish these tasks will be determined by the field office manager or forest supervisor, who will consider the applicant's role and financial participation in completing the work.

3. Visual and scenic mitigation planning/design and analysis shall be performed through integrated field assessment, applied global positioning system (GPS) technology, field photo documentation, use of computer-aided design and development software, 3-D modeling GIS software, and visual simulation software, as appropriate. Proposed activities, projects, and site development plans shall be analyzed and further developed using these technologies to meet visual and scenic objectives for the project area and

surrounding areas sufficient to provide the full context of the viewshed. Visual simulations shall be prepared according to BLM Handbook H-8432-1, or other agency requirements, to create spatially accurate depictions of the appearance of proposed facilities, as reflected in the 3-D design models. Simulations shall depict proposed project appearance from sensitive/scenic locations as well as more typical viewing locations. Transmission towers, roads, compressor stations, valves, and other aboveground infrastructure should be integrated aesthetically with the surrounding landscape in order to minimize contrast with the natural environment.

4. Applicants shall develop adequate terrain mapping on a landscape/viewshed scale for site planning/design, visual impact analysis, visual impact mitigation planning/design, and for full assessment and mitigation of cumulative visual impacts through applied, state-of-the-art design practices using the cited software systems. The landscape/viewshed scale mapping shall be geo-referenced and at the same Digital Elevation Model (DEM) resolution and contour interval within the margin of error suitable for engineered site design. This level of mapping shall enable proper placement of proposed developments into the digital viewshed context. Final plans shall be field verified for compliance.

5. The full range of visual and scenic best management practices shall be considered, and plans shall incorporate all pertinent best management practices (BMPs). Visual and scenic resource monitoring and compliance strategies shall be included as a part of the project mitigation plans.

6. Compliance with VRM/SMS objectives shall be determined through the use of the BLM Contrast Rating procedures defined in BLM Handbook H-8431-1 Visual Contrast Rating, or the FS SMS Handbook 701. Mitigation of visual impacts shall abide by the requirements of these handbooks.

Public Health and Safety

1. An electricity transmission project shall be planned by the applicant to comply with FAA regulations, including lighting regulations, and to avoid potential safety issues associated with proximity to airports, military bases or training areas, or landing strips.

2. A health and safety program shall be developed by the applicant to protect both workers and the general public during construction, operation, and decommissioning of an energy transport project. The program should identify all applicable Federal and state occupational safety standards, establish safe work practices for each task (e.g., requirements for personal protective equipment and safety harnesses, Occupational Safety and Health Administration [OSHA] standard practices for safe use of explosives and blasting agents, measures for reducing occupational electromagnetic field [EMF] exposures), and define safety performance standards (e.g., electrical system standards). The program should include a training program to identify hazard training requirements for workers for each task and establish procedures for providing required training to all workers. Documentation of training and a mechanism for reporting serious accidents to appropriate agencies should be established.

3. The health and safety program shall establish a safety zone or setback from roads and other public access areas that is sufficient to prevent accidents resulting from various hazards. It should identify requirements for temporary fencing around staging areas, storage yards, and excavations during construction or decommissioning activities. It should also identify measures to be taken during the operations phase to limit public access to those components of energy facilities that present health or safety risks.

4. Applicants shall develop a comprehensive emergency plan that considers the vulnerabilities of their energy system to all credible events initiated by natural causes (earthquakes, avalanches, floods, high winds, violent storms, etc.), human error, mechanical failure, cyber attack, sabotage, or deliberate destructive acts of both domestic and international origin and the potential for and possible consequences of those events. Vulnerability, threat, and consequence assessment methodologies and criteria in the sector-specific olan (SSP) for energy will be used and appropriate preemptive and mitigative response actions will be identified. The applicant must coordinate emergency planning with state, local, and Tribal emergency and public safety authorities and with owners and operators of other energy systems collocated in the corridor or in adjacent corridors that could also be impacted.

5. In addition to directives contained in other IOPs herein, the applicant must identify all Federal, state, and local regulations pertaining to environmental protection, worker health and safety, public safety, and system reliability that are applicable throughout the construction, operation, and decommissioning phases of their facility's life cycle and must develop appropriate compliance strategies, including securing all necessary permits and approvals.

Hazardous Materials Management

1. Applicants for petroleum pipelines and projects involving oil-filled electrical devices shall develop a spill prevention and response plan identifying spill prevention measures to be implemented, training requirements, appropriate spill response actions, and procedures for making timely notifications to authorities. The spill prevention and response plan should include identification of any sensitive biotic resources and locations (such as habitats) that require special measures to provide protection, as well as the measures needed to provide that protection.

Fire Management

1. Applicants shall develop a fire management strategy to implement measures to minimize the potential for a human-caused fire during project construction, operation, and decommissioning. The strategy should consider the need to reduce hazardous fuels (e.g., native and non-native annual grasses and shrubs) and to prevent the spread of fires started outside or inside a corridor, and clarify who has responsibility for fire suppression and hazardous fuels reduction for the corridor.

2. Applicants must work with the local land management agency to identify project areas that may incur heavy fuel buildups, and develop a long-term strategy on vegetation management of these areas. The strategy may include land treatment during project construction, which may extend outside the planned ROW clearing limits.

A.2 PROJECT CONSTRUCTION

General

1. To avoid conflict with Federal and non-Federal operations, the applicant shall be aware of liabilities pertaining to environmental hazards, safety standards, and military flying areas.

2. The applicant shall locate all stationary construction equipment (i.e., compressors and generators) as far as practicable from nearby residences.

3. Applicants shall pay fair market value to the land management agency for any merchantable forest products that will be cut during ROW clearing. The local land management agency will determine the fair market value, which will be paid prior to clearing. The applicant will either remove the forest products from the area or will stack the material at locations determined by the local land management agency. Treatment of unmerchantable products will be determined by the local land management agency.

Soils, Excavation, and Blasting

1. Applicants shall salvage, safeguard, and reapply topsoil from all excavations and construction activities during restoration.

2. All areas of disturbed soil shall be restored by the applicant using weed-free native grasses, forbs, shrubs, and trees as directed by the agency. Restoration should not be unnecessarily delayed. If native species are not available, noninvasive vegetation recommended by agency specialists may be used.

3. The applicant must not create excessive slopes during excavation. Areas of steep slopes, biological soil crusts, erodible soil, and stream channel crossings will often require site-specific and specialized construction techniques by the applicant. These specialized construction techniques should be implemented by adequately trained and experienced employees.

4. Blasting activities will be avoided or minimized in the vicinity of sole source aquifer areas to reduce the risk of releasing sediments or particles into the groundwater and inadvertently plugging water supply wells.

5. The applicant must backfill foundations and trenches with originally excavated material as much as possible. Excess excavation materials should be disposed of by the applicant only in approved areas.

6. The applicant shall obtain borrow (fill) material only from authorized sites. Existing sites should be used in preference to new sites.

7. The applicant shall prepare an explosives use plan that specifies the times and meteorological conditions when explosives will be used and specifies minimum distances from sensitive vegetation and wildlife or streams and lakes.

8. If blasting or other noisy activities are required during the construction period, the applicant must notify nearby residents in advance.

Mitigation and Monitoring

1. All control and mitigation measures established for the project in the POD and other required plans shall be maintained and implemented by the applicant throughout construction. Necessary adjustments may be made with the concurrence of the appropriate agency.

Surface and Groundwater Resources

1. The applicant shall safeguard against the possibility of dewatering shallow groundwater and/or wetlands in the vicinity of project sites during foundation excavations or excavations for buried pipelines.
2. The applicant shall implement erosion controls complying with county, state, and Federal standards, such as jute netting, silt fences, and check dams, and secure all necessary storm water pollution prevention plan (SWPPP) permits.

3. The applicant shall minimize stream crossings by access roads to the extent practicable. All structures crossing intermittent and perennial streams shall be located and constructed so that the structures do not decrease channel stability, increase water velocity, or impede fish passage.

4. Applicants shall not alter existing drainage systems and shall give particular care to sensitive areas such as erodible soils or steep slopes. Soil erosion shall be reduced at culvert outlets by appropriate structures. Catch basins, roadway ditches, and culverts shall be cleaned and maintained.

5. Applicants must not create hydrologic conduits between aquifers.

Paleontological Resources

1. Project construction activities will follow the protective measures and protocols identified in the paleontological resources mitigation plan.

2. All paleontological specimens found on Federal lands remain the property of the U.S. government. Specimens, therefore, shall only be collected by a qualified paleontologist under a permit issued by the managing agency and must be curated in an approved repository.

Ecological Resources

1. Areas that are known to support ESA-listed species, BLM-special-status species, FS-sensitive, and state-listed species or their habitats shall be identified and marked with flagging or other appropriate means to avoid direct impacts during construction activities. Construction activities upslope of these areas should be avoided to prevent indirect impacts of surface water and sediment runoff.
2. All construction activities that could affect wetlands or waters of the United States shall be conducted in accordance with the requirements identified in permits issued by the U.S. Army Corps of Engineers.

Visual Resources

1. A pre-construction meeting with BLM/FS landscape architects or other designated visual/scenic resource specialist shall be held before construction begins to coordinate on the VRM/SMS mitigation strategy and confirm the compliance-checking schedule and procedures. Applicants shall integrate interim/final reclamation VRM/SMS mitigation elements early in the construction, which may include treatments such as thinning and feathering vegetation along project edges, enhanced contour grading, salvaging landscape materials from within construction areas, special revegetation requirements, etc. Applicants shall coordinate with BLM/FS in advance to have BLM/FS landscape architects or other designated visual/scenic resource specialists onsite during construction to work with implementing BMPs.

Cultural Resources

1. Project applicants shall provide all cultural resources reports and data in an approved electronic format that is integrated across jurisdictional boundaries, that meets current standards, and that is compatible with SHPO systems. Project proponents shall submit cultural resources data on a regular basis to ensure that SHPO systems are kept up-to-date for reference as the different phases of the project proceed.

2. When an area is identified as having a high potential for cultural resources but none are found during a pre-construction field survey, a professionally qualified cultural resources specialist will be required to monitor ground-disturbing activities during project construction, and to complete a report when the activities are finished. The protocol for monitoring should be identified in the CRMP.

3. When human remains, funerary objects, sacred objects, or objects of cultural patrimony are inadvertently discovered, the provisions of NAGPRA shall apply and the process identified in the CRMP must be followed.

Hazardous Materials and Wastewater Management

1. Any wastewater generated by the applicant in association with temporary, portable sanitary facilities must be periodically removed on a schedule approved by the agency, by a licensed hauler and introduced into an existing municipal sewage treatment facility. Temporary, portable sanitary facilities provided for construction crews should be adequate to support expected onsite personnel and should be removed at completion of construction activities.

2. All hazardous materials (including vehicle and equipment fuels) brought to the project site will be in appropriate containers and will be stored in designated and properly designed storage areas with appropriate secondary containment features. Excess hazardous materials will be removed from the project site after completion of the activities in which they are used.

Air Emissions

1. The applicant shall cover construction materials and stockpiled soils if these are sources of fugitive dust.

2. To minimize fugitive dust generation, the applicant shall water land before and during surface clearing or excavation activities. Areas where blasting would occur should be covered with mats.

Noise

1. The applicant shall limit noisy construction activities (including blasting) to the least noise-sensitive times of day (i.e., daytime only between 7 a.m. and 10 p.m.) and weekdays.

Fire Safety

1. The applicant must ensure that all construction equipment used is adequately muffled and maintained and that spark arrestors are used with construction equipment in areas with, and during periods of, high fire danger.

2. Flammable materials (including fuels) will be stored in appropriate containers.

A.3 PROJECT OPERATION

Mitigation and Monitoring

1. All control and mitigation measures established for the project shall be maintained and implemented by the applicant throughout the operation of the project. Necessary adjustments may be made with the concurrence of the appropriate agency.

Ecological Resources

1. Applicants shall review existing information regarding plant and animal species and their habitats in the vicinity of the project area and identify potential impacts to the applicable agencies.

2. Project developer staff shall avoid harassment or disturbance of wildlife, especially during reproductive courtship, migratory, and nesting seasons.

3. Observations by project staff of potential wildlife problems, including wildlife mortality, will be immediately reported to the applicable agency authorized officer.

Pesticide and Herbicide Use

1. If pesticides are used, the applicant shall ensure that pesticide applications as specified in the integrated vegetation management plan are conducted within the framework of agency policies and entail only the use of EPA-registered pesticides that are applied in a manner consistent with label directions and state pesticide regulations. Pesticide use shall be limited to non-persistent immobile pesticides and shall be applied only in accordance with label and application permit directions and stipulations for terrestrial and aquatic applications (BLM 2007a).

2. Pesticide and herbicide uses shall be avoided in the vicinity of sole source aquifer areas (BLM 2007a).

Visual Resources

1. Terms and conditions for VRM/SMS mitigation compliance shall be maintained and monitored for compliance with visual objectives, adaptive management adjustments, and modifications as necessary and approved by the BLM/FS landscape architect or other designated visual/scenic resource specialist.

Hazardous Materials, Wastes, and Wastewater Management

1. The applicant shall provide secondary containment for all onsite hazardous materials and waste storage areas.

2. The applicant shall ensure that wastes are properly containerized and removed periodically for disposal at appropriate offsite permitted disposal facilities.

3. In the event of an accidental release to the environment, the applicant shall initiate spill cleanup procedures and document the event, including a cause analysis, appropriate corrective actions taken, and a characterization of the resulting environmental or health and safety impacts. Documentation of the event shall be provided to the land management agency's authorized officer and other Federal and state agencies, as required.

Air Quality

1. Dust abatement techniques (e.g., water spraying) shall be used by the applicant on unpaved, unvegetated surfaces to minimize airborne dust. Water for dust abatement shall be obtained and used by the applicant under the appropriate state water use permitting system. Used oil will not be used for dust abatement.

Noise

1. The applicant shall ensure that all equipment has sound-control devices no less effective than those provided on the original equipment.

A.4 PROJECT DECOMMISSIONING

General

1. Where applicable, decommissioning activities will conform to agency standards and guidance for mitigation and reclamation (e.g., BLM's Gold Book).

2. Applicants must receive approval for changes to the ROW authorization prior to any modifications to the ROW required for decommissioning.

3. Gravel work pads will be removed; gravel and other borrow material brought to the ROW during construction will be disposed of as approved by the agency.

4. Any wells constructed on the ROW to support operations shall be removed and properly closed in accordance with applicable local or state regulations.

5. All equipment, components, and above-ground structures shall be cleaned and removed from the site for reclamation, salvage, or disposal; all below-ground components shall be removed to a minimum depth of 3 feet to establish a root zone free of obstacles; pipeline segments and other components located at greater depths may be abandoned in place provided they are cleaned (of all residue) and filled with inert material to prevent possible future subsidence.

6. Dismantled and cleaned components shall be promptly removed; interim storage of removed components or salvaged materials that is required before final disposition is completed will not occur on Federal land.

7. At the close of decommissioning, applicants will provide the Federal land manager with survey data precisely locating all below-grade components that were abandoned in place.

Mitigation and Monitoring

1. All control and mitigation measures established for the project in the POD and other required plans shall be incorporated into a decommissioning plan that shall be approved by the Federal land manager(s); the decommissioning plan shall include a site reclamation plan and a monitoring program and shall be coordinated with owners and operators of other systems on the corridor to ensure no disruption to the operation of those systems.

Surface Water

1. A SWPPP permit shall be obtained and its provisions implemented for all affected areas before any ground-disturbance activities commence.

Transportation

1. Additional access roads needed for decommissioning shall follow the paths of access roads established during construction to the greatest extent possible; all access roads not required for the continued operation and maintenance of other energy systems present in the corridor shall be removed and their footprints reclaimed and restored.

Restoration

1. Topsoil removed during decommissioning activities shall be salvaged and reapplied during final reclamation; all areas of disturbed soil shall be reclaimed using weed-free native shrubs, grasses, and forbs or other plant species approved by the land management agency; grades shall be returned to pre-development contours to the greatest extent feasible.

2. The vegetation cover, composition, and diversity shall be restored to values commensurate with the ecological setting, as approved by the authorizing officer.

Hazardous Materials and Waste Management

1. All fuels, hazardous materials, and other chemicals shall be removed from the site and properly disposed of or reused.

2. Incidental spills of petroleum products and other chemicals shall be removed and the affected area cleaned to meet applicable standards.

3. Solid wastes generated during decommissioning shall be accumulated, transported, and disposed in permitted offsite facilities in accordance with state and local requirements; no solid wastes shall be disposed of within the footprint of the ROW or the corridor.

3. Hazardous wastes generated as a result of component cleaning shall be containerized and disposed of in permitted facilities.

REFERENCES

BLM, 2006, BLM Manual 9011-Chemical Pest Control. Available at http://www.blm.gov/ca/st/en/prog/weeds/9011.print.html. Accessed October 30, 2008.

BLM, 2007a, Record of Decision for the Final Programmatic Environmental Impact Statement for Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States, U.S. Department of the Interior, September.

BLM, 2007b, Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Final Programmatic Environmental Report, U.S. Department of the Interior, June.

BLM, 2008, Integrated Vegetation Management Handbook 1740-2, Programmatic Biological Assessment for Vegetation Management, U.S. Department of the Interior.