RECORD OF DECISION

SALT WELLS ENERGY PROJECTS

Final Environmental Impact Statement
LO-2010-1022

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Recommended: Kenneth L. Parr 12/05/11

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Lahontan Basin Area Manager

Concur: Anastasia T. Leigh 12/12/2011

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Approved: FOR Donald R. Glaser 12/14/11

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I. INTRODUCTION

NV Energy (also known as Sierra Pacific Power Company [SPPC]) submitted an application for a license in 2009 with the Bureau of Reclamation Lahontan Basin Area Office (Reclamation) under the 1902 Reclamation Act, Reclamation Project Act of 1939 and 43 CFR 429; and an application for a right-of-way (ROW) grant with the Bureau of Land Management Stillwater Field Office (BLM) under Title V of the Federal Land Policy and Management Act (FLPMA), 43 United States Code (USC) 1761-1771. The application were for the construction and operation of a 22-mile 230-kV electric transmission line, two 60-kV electric line folds, one substation and two switching stations on private and public land in Churchill County, Nevada (See Figure 1, included as Attachment A).

Concurrent with the SPPC submittal, the BLM received two separate geothermal plans of utilization and applications for facility construction permits for Ormat Technologies (Ormat) and Gradient Resources (formerly known as Vulcan Power Company) in Churchill County, Nevada. The BLM determined that because of similar timing, geography, and types of actions, the three proposals would be analyzed in one Environmental Impact Statement (EIS), together known as the Salt Wells Energy Projects EIS. Although the projects have been analyzed in one EIS, each proposed project requires a separate, stand-alone record of decision (ROD) from the BLM.

Cooperating agencies for the EIS are the United States (US) Bureau of Reclamation (Reclamation), Churchill County, City of Fallon, Naval Air Station Fallon, Nevada Division of Minerals, and Nevada Department of Wildlife. BLM and SPPC personnel presented the proposed project and the EIS process at several public venues to solicit comments on the EIS.

Combined, the three proposals could result in up to five 30- to 60-megawatt (MW) geothermal power plants with up to 71 associated wells (39 for the proposed actions and the remainder previously authorized), pipelines and associated facilities, and a 22-mile, up to 125-foot-wide ROW for a new transmission line, with substations and switching stations.

The Geothermal Steam Act of 1970, amended and supplemented by Energy Policy Act of 2005 (EPAct) authorizes the Secretary to issue leases for development and utilization of geothermal steam and associated geothermal resources in lands administered by the Secretary, including public, withdrawn and acquired lands. BLM has the delegated authority to issue geothermal leases on federal lands, including those administered by Reclamation.

Reclamation has prepared this Record of Decision (ROD) for the SPPC project to address activities and facilities on Reclamation-administered lands, following Council on Environmental Quality (CEQ) NEPA Regulations (40 CFR 1505.2) and Department of the Interior NEPA Implementing Regulations at 43 CFR part 46.

The BLM issued a Record of Decision (ROD) at the end of the process for each proposed project. Reclamation has no decision to make on Ormat's or Vulcan's proposals, and will not

prepare a ROD for those projects. BLM will authorize those activities, as well as that portion of SPPC's powerline that crosses public lands.

II. RECLAMATION'S DECISION

It is Reclamation's decision to issue an authorization to construct a 22 mile overhead 230kV electric transmission line and an approximately 1.5 mile buried fiber optic line over Reclamation managed lands and features as described in the Final EIS, Preferred Alternative (#3). Elements of this decision are highlighted below.

The Lahontan Basin Area Manager will issue authorization to SPPC to construct the 230kV power line and the fiber optic line. For those segments that cross Reclamation's surface-managed lands, Reclamation's action will be to issue a license. For those segments that cross Newlands Project features on private land, Reclamation will issue letters of consent. These authorizations shall be subject to the terms, conditions, stipulations, plan of development, and environmental protection measures developed by BLM, Reclamation, and SPPC.

Reclamation's issuance of the license and letters of consent will be contingent on:

1. Reclamation's final approval of a Plan of Development (POD) that would outline the specifics of how the proposed project would be constructed, operated, and maintained and would include monitoring measures to ensure all commitments are fulfilled. Details of this POD are described below in Section V. Implementing the Decision and Environmental Commitments.
2. Modification of the contract between the U.S. Navy, Truckee Carson Irrigation District, and Reclamation that was signed in 1959, whereby, Reclamation agreed not to authorize the construction of any structure in excess of 40 feet in height and to not authorize land use other than agriculture (Attachment D).

In making this decision, Reclamation is assisting in furthering Secretarial Order 3285, Amendment 1 (February 22, 2010). This amendment states that "encouraging the production, development, and delivery of renewable energy is one of the Department's highest priorities. Agencies and bureaus within the Department will work collaboratively with each other, and with other federal agencies, departments, states, local communities, and private landowners to encourage the timely and responsible development of renewable energy and associated transmission while protecting and enhancing the nation's water, wildlife, and other natural resources." Reclamation will also be fulfilling the Energy Policy Act of 2005 (Public Law 109-58), which encourages the development of renewable and alternative energy resources, including geothermal energy, as part of an overall strategy to develop a diverse portfolio of domestic energy supplies. Section 211 of the Act calls for the Secretary of the Interior to have approved

non-hydropower renewable energy projects located on public lands, where appropriate, with a generation capacity of at least 10,000 MW of electricity by 2015.

III. ALTERNATIVES

The FEIS analyzed the no action alternative, Proposed Action, and four action alternatives as summarized below. A full description of each alternative can be found in Chapter 2 of the FEIS.

No Action Alternative

For the No Action Alternative, the project would not be implemented.

Proposed Action – Fallon 230-kV Source Project

SPPC proposes to build two switching stations, one 230-kV transmission line, two 60-kV electric line folds, and one substation, as follows:

- Construction of a new Bass Flat Switching Station at the junction of the existing Fort Churchill to Austin 230-kV transmission line and the ENEL 230-kV transmission line (located on public lands only);
- Construction of a new Pony Express Switching Station adjacent to the existing ENEL Geothermal Power Plant (located on public lands only);
- Construction of a new Greenwave Substation southwest of Fallon on private lands encumbered with Newlands Project feature easements.
- Construction of a 230-kV transmission line from the proposed Pony Express Switching Station to the Greenwave Substation (across public, Reclamation-administered lands and private lands); and
- Installation of two 60-kV electric line folds on four single-pole structures connecting the proposed Greenwave Substation to the existing 60-kV transmission lines which are connected to the existing Fallon Substation north of Sheckler Road. (The location of the two 60kV line folds also involves Reclamation acquired easements).

The major components of SPPC's Fallon 230-kV Source Project are described in **Table 1**, Proposed Fallon 230-kV Source Project Facilities. SPPC would implement the BMPs, as defined by the Nevada Division of Environmental Protection (2008), which include accepted measures identified in the POD and outlined in Appendix E of the FEIS, Environmental Protection Measures and Best Management Practices, during construction and operation of the project.

Table 1
Proposed Fallon 230-kV Source Project Facilities

Project Component	Location/Description	Temporary Disturbance	Permanent Disturbance
Proposed Bass Flat Switching Station	Approximately 20 miles southeast of Fallon.	500 x 500 feet (+/- 5.75 acres)	500 x 500 feet (+/- 5.75 acres)
Proposed Pony	On public land adjacent to ENEL's Salt	500 x 500 feet	500 x 500 feet

Table 1
Proposed Fallon 230-kV Source Project Facilities

Project Component	Location/Description	Temporary Disturbance	Permanent Disturbance
Express Switching Station	Wells Geothermal Power Plant (approximately 16 miles southeast of Fallon, Nevada).	(+/- 5.75 acres)	(+/- 5.75 acres)
Proposed Greenwave Substation	South side of Sheckler Road in Fallon, Nevada.	11.5 acres	11.5 acres
Proposed 230-kV Transmission Line	Between the Proposed Greenwave Substation and the Proposed Pony Express Switching Station.	Length: 21.7 miles Width: 300-foot ROW Total Disturbance: 789 acres	Length: 21.7 miles Width: 125-foot ROW for H-frame pole and 60-foot ROW for single pole. Total Disturbance (assuming all H-frame pole buildout): 329 acres
Proposed 60-kV Electric Line Folds	Installation of two 60-kV electric line folds on four single-pole structures from the proposed Greenwave Substation to the existing 60-kV transmission lines across the street.	Length: 250 feet Width: 100-foot ROW Total Disturbance: 0.6 acres	Length: 250 feet Width: 100-foot ROW Total Disturbance: 0.6 acres
Total Estimated Disturbance:		**813 acres**	**352 acres**

Alternative 1
From the Macari Switching Station, Alternative 1 would travel south of the Proposed Action route, following the Carson Lake and Pasture Title Transfer boundary from east to west, and then run north of the Corkill Ranch on Cushman Road. This Alternative was proposed to minimize the impact on existing conservation easements that are either bisected or bordered by the Proposed Action. Deeds to the conservation easements include an 80-foot height restriction and restrict uses to those that support agriculture.

- Length of Transmission line: 22.4 miles (118,272 feet)
- Total Temporary Disturbance: 838 acres

Alternative 2
The route would be the same as the Proposed Action except the initial portion from the Macari Switching Station would continue west along Macari Lane for an additional 2 miles before going south for one half mile along Schaeffer Lane and connecting back into the Proposed Action route. This Alternative was developed to address concerns about bisecting land parcels south of Macari Lane.

- Length of Transmission line: 21.7 miles (114,576 feet)
- Total Temporary Disturbance: 789 acres
- Total Permanent Disturbance: 329 acres

Alternative 3 (Preferred)
At the April 14, 2011 cooperating agency meeting, a newly preferred alternative was developed through a collaborative process that modified SPPC Alternative 2 by rerouting about two miles of the transmission line. This third alternative was added to the FEIS with additional analysis. The route would be the same as Alternative 2 except one half mile west of Pasture Road the route would jog south then head west one half mile along the southern boundary of the Corkill Ranch conservation easement before going north one half mile along the Carson Lake Drain and the western boundary of the conservation easement before connecting back into the Proposed Action/Alternative 2 route. This alternative was developed to address concerns about bisecting the Corkill Ranch conservation easement. This alternative would also include an option to include the Macari Fiber Optic Alternative for a backup fiber optic communication connection.

- Length of Transmission line: 21.9 miles (115,632 feet)
- Total Temporary Disturbance: 796 acres
- Total Permanent Disturbance: 332 acres

Macari Fiber Optic Alternative
SPPC would construct an additional fiber optic line to connect communications from Highway 50 to the Macari Switching Station. This alternative could be applied as an option to all alternatives if SPPC is not able to get authorization to complete the transmission line from the Macari Switching Station to the Greenwave Substation. This Alternative from Macari Lane would involve trenching about one mile along Macari Lane to Highway 50. The fiber optic communications cable from the 230-kV transmission line would be routed underground east along Macari Lane via two four-inch PVC conduits. The conduits would pass beneath the Fallon Canal, or over the canal in association with the Ormat-proposed geothermal pipeline crossing, and would continue 1.25 miles to Highway 50. A bore would be performed under Highway 50, and the conduits would then continue approximately 150 feet west and intercept an existing company-owned communication conduit system. The trench would be a maximum of 1-foot wide and 42 inches deep and would use native fill unless required otherwise. Two four-inch PVC conduits would be placed in the trench with a minimum of 36 inches of native cover. Along with the two four-inch conduits, four 2-foot by 4-foot by 3-foot deep pull boxes would be constructed. Aboveground marker posts (approximately 3 to 4 feet tall) would be placed at 400-foot intervals; these marker posts would display a company logo depicting buried fiber optic cable.
The conduit path would have cable pulling vaults set at 600-foot intervals and on either side of the canal and highway crossings. Additionally, an existing communications vault 3,500 feet east along Highway 50 would be excavated for splicing.

- Length of Fiber Optic Line: 1.5 miles
- Temporary disturbance width of Fiber Optic Line: 8 feet
- Permanent disturbance width of Fiber Optic Line: 6 feet
- Total Temporary Disturbance: 63,360 square feet (1.45 acres)
- Total Permanent Disturbance: 47,520 square feet (1.09 acres)

Alternatives Not Fully Analyzed

BLM, cooperating agencies, and SPPC worked to develop alternative transmission line routes to address issues and concerns identified in scoping and in meetings with the cooperating agencies during preparation of the EIS. Of the alternatives developed, the following were considered but eliminated from further consideration.

Allen Road to Greenwave Substation: An alternative was considered to extend either the Proposed Action or Alternative 1 routes to Allen Road and then north along Allen Road to the Greenwave Substation. This alternative was eliminated due to constraints with ditches and canals, that it would impact 12 to 15 more homes, and that it would require disruption of service during construction.

Along Highway 50: An alternative was considered to route the power line from Macari Lane along Highway 50 and across Wildes Road to the existing Fallon Substation. This alternative was eliminated for numerous reasons including that the route does not meet planning requirement to be within one mile of the existing Fallon 60-kV substation; it would have negative visual impact on the Grimes Point Archeological Site; and it would be within an area classified in the BLM land use plan as No Surface Occupancy Area.

Macari Lane Alternative: An alternative was considered that would continue the line along Macari Lane and meet up with Proposed Action route at Pasture Road. This alternative was eliminated because the portion of Macari Lane west of Beach Road has a number of existing encumbrances including a buried Paiute Pipeline Company natural gas pipeline, a Navy transmission line delivering power to the Navy facilities toward Dixie Valley, an SPPC distribution line, and private water delivery systems.

South of Carson Lake: An alternative was considered to route the line south of Carson Lake. This alternative was eliminated due to potential impacts on the Pony Express National Historic Trail, a second 230-kV transmission line is hard to protect electrically, and it would result in changes to cost responsibility between utility and geothermal generators, which may jeopardize project feasibility.

CJ Drive to HWY 95 and CJ Drive-West Alternatives: The CJ Drive to HWY 95 Alternative would have been the same as Alternative 1 up until one mile east of Pasture Road, where the route would have turned south to CJ Drive and then continue west to Pasture Road south and around to Highway 95. At Highway 95 the route would go north to Depp Road and then cut across at an angle to the Proposed Action route. The CJ Drive-West Alternative would have followed the same route as the CJ Drive-HWY 95 Alternative except instead of going north on Highway 95 to Depp Road, this route would only extend one and one half miles north on Highway 95 then go west and north to meet up with the Proposed Action route to the Greenwave Substation. These alternatives were eliminated due to greater impacts to private landowners, greater impacts to natural resources, and would be close to Carson Lake, which provides important bird habitat.

Environmentally Preferable Alternative

The National Environmental Policy Act requires identification of the environmentally preferable alternative in the ROD (40 CFR 1505.2). The Proposed Action and all action alternatives would result in disturbance to the environment. The No Action Alternative, as described in the FEIS, would result in no disturbance to the environment and is therefore the environmentally preferred alternative.

IV. ENVIRONMENTAL COMMITMENTS

This ROD incorporates mitigation and monitoring measures, and conditions and stipulations from the FEIS. Considering the pertinent factors, the Agency Preferred Alternative provides for the construction of an electric transmission line and associated facilities in the least impacting manner. All practicable methods to avoid or minimize environmental harm from the selected alternative have been adopted.

Prior to start of the project, a POD will be developed by SPPC and BLM to outline the specifics of how the project will be constructed and operated and will list monitoring measures to ensure commitments are fulfilled.

The following mitigation and monitoring measures have been developed by Reclamation, BLM, and the cooperating agencies to reduce potentially adverse impacts. Mitigations identified in the FEIS include the following:

Land Use Authorization, Airspace, and Access

- SPPC would coordinate with private landowners to obtain easements and develop a compensation plan as discussed in Section 4.26 of the FEIS.
- SPPC would also coordinate with the Navy and Churchill County to address the height restriction of 80 feet for the conservation easement parcels.
- SPPC would work with the Navy to ensure compliance with the guidance for APZ2 areas.

Air Quality

Fugitive Dust Control

SPPC or its contractors will be required to prepare a Fugitive Dust Control Plan at least 30 days prior to the start of construction. This plan will be approved by the Nevada Division of Environmental Protection, Bureau of Air Pollution, or, if designated by Nevada Division of Environmental Protection, by Churchill County. This plan will include best management practices (BMPs) defined by the Nevada State Conservation Commission in its Best Management Practices Handbook (1994), best practical methods included in the Dust Control Handbook for Churchill County (2010), and other measures that must be implemented during construction to reduce fugitive dust emissions. Specific measures will be developed as part of the construction planning and permitting processes; however, the Fugitive Dust Control Plan will include, at a minimum, the following measures:

- Stabilize open storage piles by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and
- When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour. Limit speed of earthmoving equipment to 10 miles per hour.

Other BMPs and best practical methods that could be employed to control fugitive dust emissions and visibility impacts during construction could include the following:

- Apply water or dust suppressant to all active construction and site preparation work areas at least twice daily and more often during windy periods;
- Apply water or dust suppressants on all unpaved access roads and staging areas;
- Gravel access roads and staging areas;
- Reclaim (revegetate) disturbed areas as soon as possible after surface disturbance;
- Train construction personnel to recognize excessive fugitive dust conditions and implement dust control during these times;
- Install trackout control devices at paved access points to control fugitive dust from leaving the project site via trucks and motor vehicles;
- Use construction equipment that meets applicable Environmental Protection Agency (EPA) standards for criteria pollutants from diesel engines and maintain this equipment per manufacturer's specifications; and
- Sweep paved access roads with water sweepers.

Equipment Emissions Mitigation Plan

To reduce diesel particulate, carbon monoxide, hydrocarbon, and NOx emissions associated with construction activities, SPPC or its contractors will prepare an Equipment Emissions Mitigation Plan as an appendix to the POD. This plan will be approved by BLM and will include, at a minimum, the following measures requiring that all construction-related engines adhere to the following:

- Are tuned to the engine manufacturer's specification in accordance with an appropriate time frame;
- Do not idle for more than five minutes (unless, in the case of certain drilling engines, it is necessary for the operating scope);
- Are not tampered with in order to increase engine horsepower;
- Include particulate traps, oxidation catalysts, and other suitable control devices on all construction equipment used at the Project site;
- Use diesel fuel having a sulfur content of 15 parts per million or less, or other suitable alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area; and
- Include control devices to reduce air emissions. The determination of which equipment is suitable for control devices should be made by an independent Licensed Mechanical

Engineer. Equipment suitable for control devices may include drilling equipment, generators, compressors, graders, bulldozers, and dump trucks.

Water Quality and Quantity

- As described in Chapter 2 of the FEIS, SPPC would implement plans for the protection of streams, wetlands, springs, and canals. These plans include BMPs that minimize potential for soil erosion, including a stormwater pollution prevention plan. The stormwater pollution prevention plan would include measures to prevent erosion of disturbed soil. All areas subject to temporary disturbance would be recontoured, decompacted, and seeded, or left in-place as directed by the BLM or private landowner.
- During construction of facilities, designated personnel would visually monitor disturbed areas for evidence of soil erosion and associated impacts on surface water. Appropriate actions would be taken to correct any identified problems such as excessive erosion or accidental spills.

Floodplains, Wetlands, and Riparian Zones

Implementation of the POD and associated protection plans as well as environmental protection measures for facilities within the floodplain would reduce impacts on wetlands, riparian zones, and floodplains.

The following mitigation measures would also be necessary to reduce impacts:

- A wetland delineation of wet meadows associated with the Newlands canals would be conducted to determine the boundaries, acreage, and types of wetlands that could be affected by the Proposed Action. The project proponent would comply with any mitigation measures determined by the USACE to ensure no net loss of wetlands.
- Sediment and erosion control BMPs would be implemented in accordance with state and local guidelines, including filter fencing, coir logs, etc., as needed;
- Construction within any wet meadow areas would be conducted when relatively dry conditions exist, in order to minimize soil erosion and potential impacts on vegetation and wildlife;
- There would be the ability to deploy standby sediment control BMPs, as needed, to protect all exposed portions of the site within 48 hours of a predicted storm event (a predicted storm event is defined as a National Weather Service forecasted, 50 percent chance of rain);
- Slopes along the roadways would be revegetated with native or suitable species as appropriate; and
- SPPC would obtain and comply with provision of a State of Nevada Section 401 Water Quality Certification permit.

Vegetation

- The aridity of the desert lowers the resilience of many land areas when disturbed, thus reducing revegetation success and potentially allowing for weed invasion and causing permanent loss of ecological function. As such, regular vegetation monitoring and adaptive management measures would be included as part of the revegetation plan.

- While the boundary of wetland vegetation associated with Newlands canals was determined to be outside the construction ROW, if any wetlands are encountered during construction they must be avoided.
- No additional mitigation would be necessary, since revegetation, invasive, nonnative species management, and dust control plans would be implemented as part of the POD.

Wildlife
Impacts on wildlife would be reduced through implementation of BMPs. Mitigation measures to reduce wildlife impacts, where feasible, would be detailed in the POD.

Migratory Birds
Impacts on migratory birds would be reduced through implementation of BMPs. Mitigation measures to reduce migratory bird impacts, where feasible and appropriate, would be detailed in the POD, which would include development of an invasive, nonnative plant species management plan, and revegetation plan. An avian protection plan for golden eagles was developed through coordination with the USFWS (Attachment B). Other measures would be employed, such as installing perch and nest prevention devices and anti-collision devices on all relevant structures, where applicable. A monitoring program, to be detailed in the POD, would be implemented to detect collisions and additional mitigation would be required if necessary. These measures would likely prevent take of migratory bird species, as defined by the Migratory Bird Treaty Act, and would reduce the likelihood of population-level effects.

BLM Designated Sensitive Species (Animals and Plants)
Mitigation and monitoring measures would be the same as those described for Wildlife and Migratory Birds. With implementation of mitigation measures, the SPPC Project would not result in take of BLM-designated sensitive bird species' nests and would thus not be in conflict with direction provided in BLM Instruction Memoranda and regulations. Furthermore, the project would not contribute to the need to list any BLM-designated sensitive species.

Cultural Resources
Mitigation and monitoring strategies are detailed in the Programmatic Agreement between the BLM, Reclamation, and SHPO and SPPC, Ormat, and Vulcan (Attachment C). If the Proposed Actions are approved, the Programmatic Agreement would guide all activities concerning cultural resources and historic properties within the Proposed Action from its origin date, October 5, 2010, until the undertaking is completed or until it is terminated by one or more of the signatories. The document includes sections on:

- Roles and Responsibilities including agreement on the BLM as Lead Federal Agency, and the role of SPPC, Ormat, and Vulcan in covering costs for identification, evaluation, determination of effect, mitigation and monitoring, and responsibility in protecting cultural resources during construction and operation from unauthorized, inadvertent, or negligent actions by any project personnel.
- Definition of the Area of Potential Effects to include all areas containing cultural resources directly, indirectly, and visually impacted by the Proposed Action.

- The BLM would ensure that all Historic Properties in the APE are identified, evaluated for the National Register of Historic Places, assessed for effects from the Proposed Action, and avoided through project redesign, or treated through development of Treatment or Data Recovery Plans. Field treatment must be complete on archaeological resources eligible under Criterion D prior to construction.
- Provisions are detailed for roles and responsibilities during unanticipated discovery situations where subsurface archaeological remains are encountered during construction or operation.
- Other considerations include roles of cultural resource contractors in training all construction and archaeological personnel to comply with the Archaeological Resources Protection Act of 1979 (16 USC 470) on federal lands and NRS 381 on private lands, and Native American Graves Protection and Repatriation Act (43 CFR 10) when dealing with human remains on federal and NRS 383 on private lands.
- Monitoring of sensitive areas during project construction by a professional archaeologist, and if requested, a tribal representative, both empowered to stop work to protect cultural resources.
- Notices to Proceed would be issued by the BLM for segments as defined by SPPC, in the POD if BLM and SHPO have determined no cultural resources are in the Area of Potential Effects; if BLM and SHPO have determined there are no Historic Properties in the Area of Potential Effects for a certain segment or location; if the BLM and SHPO have implemented an adequate Treatment Plan for the construction segment or location and fieldwork phase is complete and summarized and approved by BLM, SHPO, and Reclamation; and SPPC, Ormat, and Vulcan have posted a surety bond to cover costs of reporting, analyzing, and curating treated site data or preparing public interpretation projects.
- Execution and implementation of the project Programmatic Agreement would fulfill the signatories responsibilities for Section 106 for all actions associated with the construction and operation of the Salt Wells Energy Projects.

Recommended treatment measures for architectural historic properties are also outlined in treatment plans that help mitigate adverse effects on resources eligible to the National Register of Historic Places under criteria A, B, and C. These types of treatment measures might include the following:

- Measures would be taken to minimize the visual impact associated with the proposed action. This may take the form of modifying tower placement, selecting paint colors that diminish the visual impact of the towers, the planting of trees that would eventually reduce the visual impact of the towers, and/or other measures that may be identified in the future.
- Photo-documentation would be prepared of pre-disturbance viewsheds from all National Register of Historic Places-eligible properties within one-half mile of the power line selected for construction. Emphasis would be placed on documenting viewsheds as seen from the resource looking toward the power line. Also, a representative sample of eligible resources from each property type located within one-half mile of the power line selected for construction would be selected for similar photo-documentation of viewsheds. The documentation would be included in a technical report submitted to the BLM and SHPO.

- Visual/video products intended to document a select number of architectural resources would be prepared. The products would incorporate architectural, historical, and family histories in an integrated manner. Draft products would be submitted to the BLM and SHPO for technical review prior to production. Copies of the final products would be provided to BLM and SHPO for distribution.
- To the extent that access can be secured, a selected sample of specific property types based on standards established by the SHPO for properties of local and state significance would be documented. The documentation would be included in a technical report submitted to the BLM and SHPO.
- Two or more professional articles intended for publication in local or state journals would be prepared. The articles would focus on specific property types, historic periods, and/or centennial ranches. The draft articles would be submitted to the BLM and SHPO for technical review prior to publication. Its content would rely heavily on information developed by the other treatment measures.

It should be noted that the exact type and extent of treatment would be determined based on consultation between the BLM and the SHPO.

Native American Religious Concerns
In order to maintain access to and use of traditional use sites, the proponent would coordinate with local tribes and plan construction activities around traditional use periods during the construction phase of the project to eliminate any impacts.

Ongoing consultation may result in identification of Native American Religious Concerns which would be reviewed and, as appropriate and necessary, additional monitoring and mitigation measures would be developed.

Paleontological Resources
Pleistocene and early Holocene surficial deposits, such as alluvium, colluvium, talus, and playa deposits, have a low paleontological sensitivity ranking. Monitoring during construction would not be required, but spot-checking may be conducted in certain areas at the discretion of the BLM Staff Paleontologist. In the case of the Quaternary deposits, this would ensure that any older underlying fossiliferous sediments were not being affected.

If paleontological localities are identified in the SPPC Project Area, the following mitigation and monitoring measures would be implemented:

- Include site-specific evaluation of paleontological sensitivity for construction or maintenance activities requiring ground disturbance. For any construction or maintenance activity that requires ground disturbance, SPPC would ensure that preconstruction studies include assessment of the site's paleontological sensitivity by a state-registered professional geologist (PG) or qualified professional paleontologist. If the paleontological assessment determines that any of the substrate units that would be affected by the planned activity are highly sensitive for paleontological resources, the report would also include recommendations for appropriate and feasible procedures to avoid or minimize

damage to any resources present, prepared by a qualified professional paleontologist. SPPC would be responsible for ensuring implementation of the measures identified.

- The potential for impacts on paleontological resources as a result of construction or maintenance activities is lower because ground disturbance associated with these activities is typically confined to existing ROWs and immediately adjacent areas, which have already undergone some level of disturbance associated with installation and maintenance of existing infrastructure. To ensure that further ground disturbance does not result in additional damage to paleontological resources, SPPC would also implement the following measure for all activities except emergency repairs; note that this measure would also ensure against impacts as a result of any new minor construction not subject to site-specific geotechnical investigation.
- Stop work if substantial fossil remains are encountered during construction. If substantial fossil remains (particularly vertebrate remains) are discovered during construction or maintenance activities, work on the site would stop immediately until a state-registered PG or qualified professional paleontologist can assess the nature and importance of the find, and a qualified professional paleontologist can recommend appropriate treatment. Treatment may include preparation and recovery of fossil materials so that they can be housed in an appropriate museum or university collection, and may also include preparation of a report for publication describing the finds. SPPC or BLM would be responsible for ensuring that recommendations regarding treatment and reporting are implemented.
- If emergency repairs are needed, SPPC would conduct repairs as rapidly as possible to ensure continuity of service and to protect public safety. As a result, it is typically infeasible to implement a stop work order, such as that required under Mitigation Measure 2, during emergency repairs. By their nature, emergency repairs affect existing infrastructure and thus would take place in ROWs and immediately adjacent areas that have already undergone some level of disturbance associated with installation and maintenance of existing utilities infrastructure. Consequently, the potential for impacts as a result of emergency repairs is considered low, but some potential nonetheless remains. Implementation of the following measure would reduce impacts on the extent feasible.
- Implement follow-up assessment and remediation in the event paleontological resources are discovered during emergency repairs. If paleontological resources are discovered during emergency repairs, SPPC would ensure that they are evaluated by a state-registered PG or qualified professional paleontologist as soon as practicable following the completion of all necessary and required repair work. If appropriate, a qualified professional paleontologist would develop a remedial treatment plan consistent with the prevailing standard of care for paleontological resources. The treatment plan may provide for any or all of the following: measures to prevent additional damage; recovery excavations; museum curation; preparation of a report documenting the find; and development of public outreach or educational materials or displays. SPPC would be responsible for ensuring that the recommendations of the treatment plan are implemented.

Visual Resources

- Transmission line poles and cross arms similar in color to surrounding landscapes would be used whenever possible. The H-frame structures and steel single-pole structures would

be aesthetically and structurally similar to existing poles. Substation and switching station design would use low profile components. Screening berms or landscaping would surround the substation whenever feasible to make it less visible from Sheckler Road and Highway 95. The fencing materials and structures associated with the substation would be non-reflective when possible. Also, equipment would be painted a BLM-approved color to blend in with predominant vegetation and soil whenever feasible. Existing vegetation on the substation site would be preserved to the extent possible and disturbed areas would be revegetated wherever possible.

Noise

SPPC would do the following to reduce noise impacts:

- SPPC would meet the EPA noise threshold level of 55 dBA at the property line.
- Additional measures to reduce noise may be considered by SPPC through the Churchill County permit application process, and may include:
- Planning the substation layout such that the noise-generating components are set back from sensitive receptors;
- Installation of a wall constructed of materials such as cinder blocks, which may reduce sound levels.

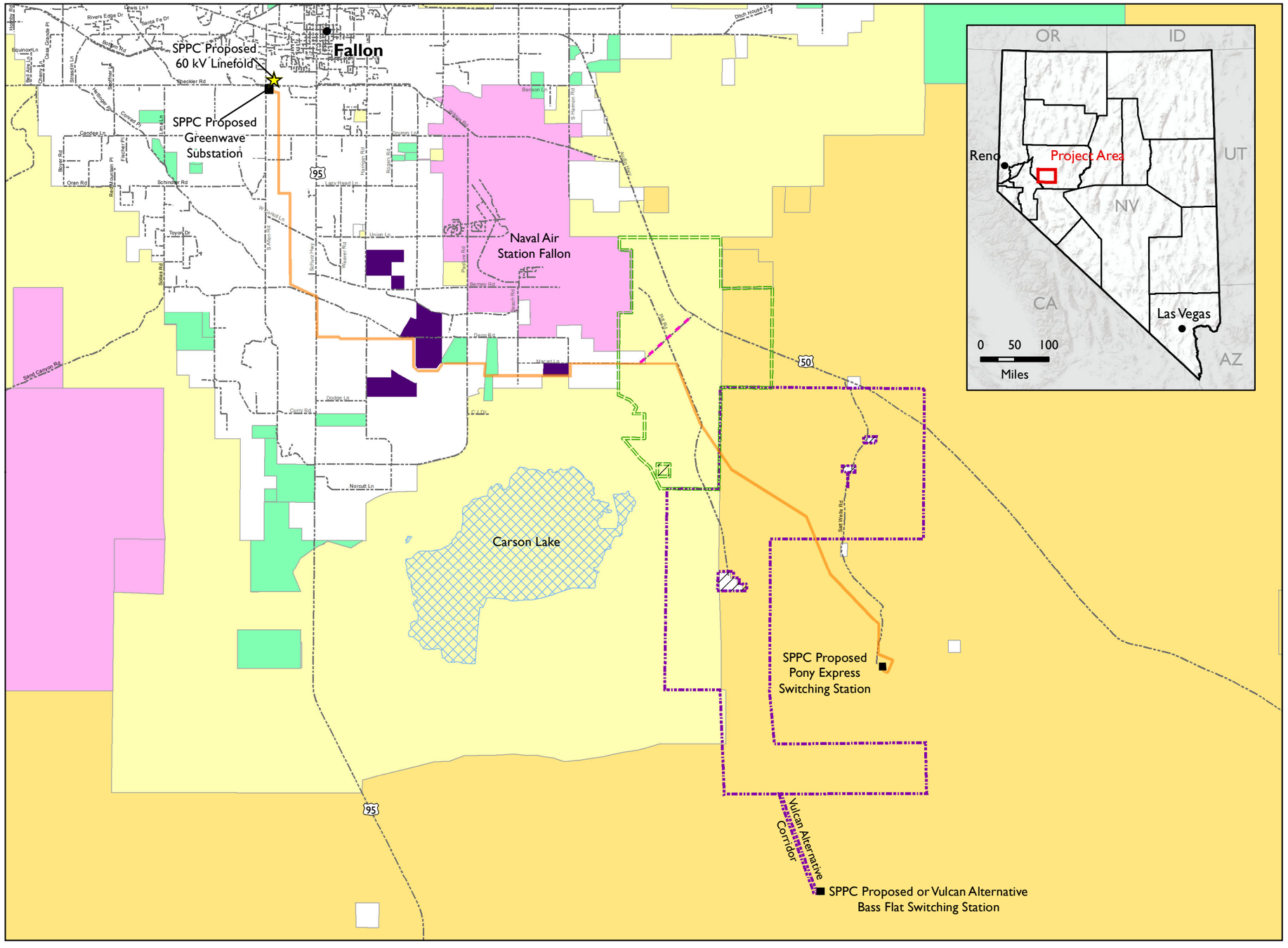
V. IMPLEMENTING THE DECISION AND ENVIRONMENTAL COMMITMENTS

Prior to construction, a revised POD would be developed and submitted to BLM and Reclamation for approval. The POD would outline the specifics of how the proposed project would be constructed, operated, and maintained and would include monitoring measures to ensure all applicable environmetal commitments are fulfilled. SPPC would implement the applicable environmental commitments and BMP's during construction and operation of the project. In addition, several separate plans would be developed and attached to the POD to address specific issues, potentially including the following: 1) general spill prevention control, 2) fire, emergency preparedness, and response, 3) blasting, transportation management, flagging, and fencing, 4) weed management, 5) stream, wetland, well, spring, and canal protection, 6) reclamation and habitat restoration, 7) wildlife protection, and 8) soil conservation and erosion/dust control. The POD would also outline the exact access road, staging area, and stringing area locations. Any additional resource studies would be completed and approved by the BLM and Reclamation prior to issuing a 20 year license for construction purposes.

The greatest concern with respect to the Salt Wells Energy Projects is the potential for avian collision or bird strikes with the power lines, as well as long-term viability of golden eagle nesting territory. Other direct effects include electrocution and impacts from project construction. Raptors, shorebirds and waterfowl have the most potential to be affected by the projects. Indirect effects include predation on shorebirds and water fowl by raptors and corvids, who take advantage of transmission lines, distribution poles and other project structures to increase hunting success. Concerns over impacts to Carson Lake and Pasture and migratory waterfowl and shorebirds have been addressed and mitigated by appropriate BMPs and development and adoption of the Avian Protection Plan, which is included as an Attachment to this ROD. The APP was prepared to outline discretionary project-specific practices and

measures for reducing avian impacts potentially resulting from operation of the projects. The plan includes the development of an avian reporting system. SPPC will report, monitor, and manage all avian injury or mortality. The goals of the monitoring program are to: 1) ensure that potential avian mortality resulting from interaction with the project facilities remain minimal; and 2) allow the Proponents to identify risks and key avian interaction areas and develop adaptive management practices to minimize these risks. The APP includes the requirement for monitoring golden eagle nest territories and to evaluate whether and which activities or conditions may be affecting golden eagles.

Reclamation has adopted all practical means to avoid and minimize environmental harm related to project features that cross Reclamation managed land and facilities for the Proposed Action and are committed to ensure that these measures are implemented.



Salt Wells Projects Area with Updated Conservation Easements

Churchill County, Nevada

- Existing Conservation Easement*

SPPC Project Area
- Alternative 3 (Preferred) 230 kV Transmission Line Corridor
- Macari Fiber Optic Alternative
- Proposed 60 kV Linefold

Ormat Project Area
- Ormat Project Area Boundary

Vulcan Project Area
- Vulcan Project Area Boundary

Other Features
- Proposed Switching or Substation
- Open Water
- Excluded from Lease Area

Land Ownership
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
- Private Land (Including city and county lands)

*Based on data received from Churchill County on July 26, 2011. Only existing conservation easements within the Region of Influence along the transmission line alternatives are displayed.

Source: BLM, Ormat, SPPC, Vulcan 2010, Churchill County 2011, Navy 2011b

0 1 2
Miles

August 2011
NAD 1983 HARN State Plane Nevada West
Disclaimer: No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

Figure 1

Salt Wells Energy Projects Avian Protection Plan

Sierra Pacific Power Company

Ormat Technologies, Inc.

Vulcan Power Company

August 19, 2011

(Revised September 1, 2011)

Prepared for EMPS Inc

By Wendy Broadhead

Pondera Ecological Consulting

Reno, NV

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ACRONYMS AND ABBREVIATIONS

	Full Phrase
APP	Avian Protection Plan
BLM	United States Department of the Interior, Bureau of Land Management
ESA	Endangered Species Act
EIS	environmental impact statement
IM	Instruction Memorandum
kV	kilovolt
MBTA	Migratory Bird Treaty Act
NDOW	Nevada Department of Wildlife
OHV	off-highway vehicle
US	United States
USC	United States Code
USFWS	United States Fish and Wildlife Service

CHAPTER 1
INTRODUCTION

An Avian Protection Plan (APP) is a project-specific document that outlines a program to reduce the potential risks of avian mortality that may result from the interaction of birds with project facilities.

There are three proponents for the three projects covered by this APP: Sierra Pacific Power Company (SPPC), Vulcan Power (Vulcan), and Ormat Technologies (Ormat). Vulcan and Ormat propose to develop geothermal resources for energy production and SPPC proposes to provide connection to the electrical grid and enhance transmission in the Fallon area. Together, the three projects are known as the Salt Wells Energy Projects. Given these multiple entities, this document serves as an agreement for each of the project proponents (Proponents). SPPC has recently developed a corporate APP (NV Energy 2010). Many of the components from their plan are included in this plan, facilitating a streamlined nexus with their existing corporate practices.

The United States (US) Department of Interior, Bureau of Land Management (BLM) has prepared the Salt Wells Energy Projects Draft Environmental Impact Statement (EIS), which was released to the public in January 2011. The EIS provides a project-specific analysis of the potential impacts to birds resulting from the three proposed projects.

1.1 PURPOSE

This APP has been prepared in compliance with federal regulations to outline discretionary project-specific practices and measures for reducing avian impacts potentially resulting from operation of the projects. The greatest concern with respect to the Salt Wells Energy Projects is the potential for avian collision or bird strikes with the power lines, as well as long-term viability of a golden eagle nesting territory. This plan presents a monitoring scheme and adaptive management framework, which will allow the Proponents to evaluate potential take and implement appropriate corrective actions.

1.2 GOALS

Implementation of this APP will fulfill numerous goals, which together strive to reduce avian mortality. The goals specific to this APP are to:

- Reduce the potential for avian mortality by implementing specific mortality reduction actions;
- Identify and isolate where avian mortality has occurred or has the potential to occur to minimize future incidents;
- Establish an avian reporting system to document incidents of electrocution and collision mortality;
- Assist the Proponents in compliance with state and federal laws regarding avian species to avoid the threat of penalties and fines;
- Improve the projects' reliability and services by reducing power outages due to avian interactions; and
- Reduce project effects on avian species through adaptive management or other actions.

1.3 STATE AND FEDERAL REGULATIONS

A variety of regulations pertain to the protection of avifauna over the life a project. Below are those most relevant to the Proponents' APP.

1.3.1 Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act of 1918 (MBTA) (16 US Code [USC] 703-712) is administered by the US Fish and Wildlife Service (USFWS) and is the cornerstone of migratory bird conservation and protection in the US. The MBTA implements a series of international treaties that provide for migratory bird protection. The Act authorizes the Secretary of the Interior to regulate the taking of migratory birds; the act provides that it shall be unlawful, except as permitted by regulations, "to pursue, take, or kill any migratory bird, or any part, nest or egg of any such bird" (16 USC 703) but does not regulate habitat. The list of species protected by the Act was revised in March 2010, and includes almost all bird species (1,007 species) that are native to the US.

Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds

Signed on January 11, 2001, this Executive Order directs each federal agency taking actions that are likely to have a measureable effect on migratory bird populations to develop and implement a Memorandum of Understanding with the USFWS that promotes the conservation of migratory bird populations.

1.3.2 Bald and Golden Eagle Protection Act (BGEPA)

The Bald and Golden Eagle Protection Act of 1940 (as amended 1959, 1962, 1972, 1978) prohibits the take or possession of bald and golden eagles with limited exceptions. Take, as defined in the Act, includes, "to pursue, shoot,

shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Disturb means, "to agitate or bother a bald or golden eagle to a degree that causes or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding or sheltering behavior."

An important eagle-use area is defined in the Act as an eagle nest, foraging area, or communal roost site that eagles rely on for breeding, sheltering, or feeding, and the landscape features surrounding such nest, foraging area, or roost site that are essential for the continued viability of the site for breeding, feeding, or sheltering eagles.

1.3.3 BLM Policy

BLM Manual 6840 provides management policy for federally listed species and BLM-designated sensitive species. State offices designate BLM sensitive species; these must be native species found on BLM-administered lands for which the BLM has the capability to significantly affect the conservation status of the species through management. BLM-designated sensitive species are declining or are predicted to decline in numbers, or are species whose habitat is limited. BLM's list of sensitive bird species includes species that are listed or proposed for listing under the Endangered Species Act (ESA) and species requiring special management consideration to promote their conservation and reduce the likelihood and need for future listing under the ESA.

BLM requires consideration and National Environmental Policy Act analysis of golden eagles and their habitat for all renewable energy projects. The BLM Instruction Memorandum (IM) on Golden Eagles (BLM IM No. 2010-156) provides direction for complying with the Act, including its implementing regulations (i.e., Eagle Rule, 50 Code of Federal Regulations parts 13 and 22) for golden eagles, and to identify steps that may be necessary within the habitat of golden eagles to ensure environmentally responsible authorization and development of renewable energy resources. The IM primarily addresses golden eagles, because a process to acquire take permits for bald eagles already exists. The IM is applicable until the USFWS establishes criteria for programmatic golden eagle permits.

1.3.4 Nevada Regulations

The State of Nevada has identified wildlife species that are declining in their range throughout Nevada or are otherwise rare and at risk of extinction. Sensitive and protected animal species are protected in Title 45 of Nevada Revised Statutes (Nevada Revised Statutes 501.10 through 503.610 and 503.620), which includes migratory birds as well as golden eagle and other raptors. Classification of wildlife species and related regulations are detailed in Chapter 503 of Nevada Administrative Code and taking of these species is

allowed only after obtaining necessary permits or authorizations from Nevada Department of Wildlife (NDOW).

CHAPTER 2
STUDY AREA

2.1 DESCRIPTION OF PROJECTS AREA

The Salt Wells Energy Projects are located within the southern portion of the Lahontan Valley as shown on Figures 1-1, Salt Wells Avian Protection Plan – North, and 1-2, Salt Wells Avian Protection Plan – South, included in Appendix A. The Lahontan Valley was historically covered by a large Pleistocene lake, Lake Lahontan. As evidence of this, the Lahontan Valley is distinguished by terminus lakes and wetlands associated with the formerly free-flowing Carson River and waters diverted from the Truckee River via the Newlands Project. At the southern end of the Lahontan Valley is the area known as Carson Lake and Pasture. The diverse and extensive wetlands of the Lahontan Valley are a crucial stop along the Pacific Flyway for hundreds of thousands of migrating shorebirds and waterfowl. As outlined in the Audubon Society's website, Carson Lake and Pasture is recognized as a significant wetland area through its inclusion into the Western Hemisphere Shorebird Reserve Network and listed as a Globally Important Bird Area by the American Bird Conservancy (Audubon Society 2010). Carson Lake and Pasture is also located within a portion of the Audubon Society's designated Lahontan Valley Wetland Important Bird Area.

Carson Lake and Pasture totals 22,700 acres, though the main wetland portion of Carson Lake is approximately 7,500 acres. Carson Pasture is currently under Bureau of Reclamation management but is intended to undergo a land transfer to the State of Nevada to be managed by NDOW as a Wildlife Management Area. The Projects Area lies primarily outside this boundary; however some components are within the Carson Pasture boundary.

Key habitat within the Projects Area includes (in order of dominance): mixed salt desert scrub, greasewood flat, agriculture and developed, Intermountain basins playa, stabilized dune, and emergent marsh and wet meadow (BLM 2011). Carson Lake and Pasture provides foraging habitat for eagles and other raptors.

Along the eastern portion of the Projects Area is a large playa, Eightmile Flat which is bisected from Carson Lake and Pasture by the Bunejug Mountains. The Bunejug Mountains provides habitat for golden eagle and other raptors, while the playa provides habitat for shorebirds.

The operational ENEL Salt Wells Geothermal Plant is located north of Eightmile Flat. A 230-kilovolt (kV) power line runs southwest from this plant, traversing Simpson Pass and connecting to the Fort Churchill to Austin 230-kV transmission line at the southern end of Carson Lake and Pasture.

2.2 DESCRIPTION OF PROPOSED PROJECTS

The Proponents propose developing geothermal resources to provide new renewable energy sources for Nevada. Combined, the three proposals could result in up to five 30- to 60-megawatt geothermal power plants with up to 71 associated wells (39 for the proposed actions and the remainder previously authorized), pipelines and associated facilities, and a 22-mile, up to 125-foot-wide ROW for a new transmission line, with substations and switching stations.

2.3 INDIVIDUAL PROJECT COMPONENTS

SPPC proposes constructing approximately 22 miles of 230-kV transmission line between Fallon, Nevada, and ENEL's Salt Wells Geothermal Power Plant, two 60-kV electric line folds 250 feet in length, two switching stations, and one substation. SPPC's project would be constructed in phases: the first phase would be construction of the line from the Pony Express Switching Station to the Carson Lake Substation (at Ormat's power plant). Phase two would be construction of the line from Carson Lake Substation to the Greenwave Substation. Phase one is expected to begin construction in 2012. Phase two timeframe is yet to be determined.

Ormat proposes constructing one power plant, one switching station, one substation, 200 feet of 230-kV interconnect power line, 6.5 miles of geothermal pipelines, up to 13 well pads, and 4.6 miles of well pad access roads. According to Ormat's Plan of Development and Utilization it would take approximately 6 months to conduct exploration drilling followed by at least 12 months of drilling injection and production wells prior to beginning construction (Ormat 2008).

Vulcan proposes constructing up to four power plants, four substations, one switching station, approximately 8 miles of 230-kV interconnect power line, up to 19 miles of geothermal pipelines, up to 26 well pads, and up to 19 miles of access roads. According to the Plan of Utilization for the Vulcan project, Vulcan anticipates that the overall development for each 30-MW binary plant or the 60-MW dual-flash plant will require approximately 30 to 36 months from filing of the POU to completion of final testing and commissioning of the units (Vulcan Power 2009). The POU would be finalized after the record of decision for the EIS is signed by BLM.

CHAPTER 3
SPECIES OF INTEREST

3.1 PROTECTED SPECIES OCCURRING WITHIN PROJECTS AREA

The term "protected species" for this APP encompasses all avian species that are protected by any one or more of the laws, policies, or regulations described in **Section 1.3**, State and Federal Regulations. These include:

- all avian species that are listed as threatened or endangered species or are proposed or candidates for listing under the ESA of 1973 as amended;
- all avian species extended protection under the MBTA;
- bald and golden eagles under the Bald and Golden Eagle Protection Act;
- all avian species that the state of Nevada extends protection to through Nevada Revised Statutes 501.10 through 503.610 and 503.620; and,
- all species identified as BLM sensitive species in Nevada.

Regardless of whether a bird species is protected by regulation, law, or agency directive, the ultimate goal of this APP is to provide protection to all avian species that may be affected by project facilities.

3.1.1 Golden Eagle (Aquila chrysaetos)

The entire Salt Wells Energy Projects Area provides suitable foraging, roosting, nesting, and migratory habitat. Golden eagles were noted within the Projects Area, as were nest outcrops and roosts. Surveys for golden eagles occurred within a four-mile radius of proposed facilities, primarily during the month of July. No occupied nest was located within lease areas during the survey period. Two unoccupied raptor nests, GOEA 1 and GOEA 2 are within one-half mile from Vulcan's proposed and existing project facilities, as is a bat and raptor roost outcrop. GOEA 1 is located on public land and is a large basalt outcrop

adjacent to an intermittently active gravel quarry on private land. It has at least four stick nests of varying size and age, most look as if they have been used for years, acquiring a notable depth of sticks. A light amount of white wash was seen on the rock, confirming activity, and golden eagles were seen using the rock in May. Nests appear to have not had significant recent use, though between examining the outcrop in May to examining it again in late July, some additional nest garnishes were noted (e.g., grass). From the nest site, activities at the quarry are not well seen or likely heard unless blasting occurs. Truck travel to and from the quarry is not obvious from the outcrop, and trucks generally do not travel the road crossing below the nest site. GOEA 1 has an approved well approximately 0.5 mile (0.9 kilometer) from the outcrop. The proposed power line is within 0.3 mile (0.47 kilometer) from the outcrop.

GOEA 2 is located on a lower basalt outcrop with a tufa mantle. This small single stick (twig) nest outcrop is shallow and relatively small for golden eagle use. The most recent nesting raptor was likely a prairie falcon, given the egg shell fragments and small prey size. Historic NDOW maps indicated a golden eagle nest within the area. The historic NDOW nest locations had some discrepancies with some nest locations being mapped in playas, meaning the transfer of paper data to digital was not entirely accurate. The NDOW mapped site may actually correspond to GOEA 1, a much more obvious feature. GOEA 2 outcrop is approximately 0.5 mile (0.8 kilometer) from two proposed and one existing well, approximately 0.8 mile (1.3 kilometer) from the proposed power plant No. 5, and 0.65 mile (1 kilometer) from the transmission line. While GOEA 2 is active with moderate amounts of whitewash it is extremely small to accommodate golden eagles. The substrate (ledge) on which the nest occurs is approximately 12 inches deep by 24 wide. It has a slight overhang making the 12 inches less usable for larger birds.

Two adult golden eagles were seen in late April above the Bunejug Mountains and were located repeated times during early May. The pair was seen using one of the unoccupied nests at, GOEA 1, appearing to be unaffiliated with an occupied nest in early May. During the July blanket environmental surveys, a recently active nest was located (GOEA 3). This nest was within 0.25 miles (0.40 kilometers) of Highway 50. This nest was obviously occupied in 2010 (possible failed nest: an egg was noted at the edge of the nest and minimal down was seen). It is located within 1.25 miles (or 2.3 kilometers) from the Ormat Project Area (see Figure 1-2). A sub-adult golden eagle was seen north of Highway 50, above Eetza Mountain near the GOEA 3 nest location in late July.

Other nests were located during the July surveys. A majority of them are inactive and are likely not to support nesting activities due to trail development and other activities, which likely preclude nesting. They are outlined below and GOEA 1- GOEA 4 are depicted on the figure 1-2.

Table 1
2010 Documented Golden Eagle Nests

Map Name	USFWS Map Convention	Territory Name	Location *(NAD 83 UTM Zone 11)*		Description
GOEA 1	NV-CHU-39118/C6-001-01	Carson Lake	39°18'51.67"N	118°37'42.39"W	*Active, whitewash, not used as a nest outcrop for a few years, 4 stick nests*
GOEA 2	NV-CHU-39118/C6-001-02	Carson Lake	39°18'9.71"N	118°37'16.91"W	*Clearly used by PRFE, unlikely GOEA due to small size, mapped as such by NDOW, one twig nest.*
GOEA 3	NV-CHU-39118/C6-001-03	Carson Lake	39°23'30.81"N	118°37'29.59"W	*Occupied 2010, possible failure, two stick nests, hot exposed site, one egg noted on edge of nest. Other nest likely PRFE*
GOEA 4	NV-CHU-39118/D5-001-01	Salt Wells	39°22'43.60"N	118°33'2.02"W	*Possible GOEA, old inactive nests, two stick nests, some whitewash on perch sites.*
GOEA 5	NV-CHU-39118/D5-002-01	Grimes Point	39°24'29.67"N	118°37'31.98"W	*Possible GOEA , old, close to trails and road, no whitewash*
GOEA 6	NV-CHU-39118/D5-002-02	Grimes Point	39°25'23.54"N	118°36'24.76"W	*Active nest outcrop, four stick nests, no whitewash on/near nests, whitewash all around*

Source: 2010 Pondera Ecological Consulting Biological Resource Survey

Like other long-lived species, golden eagles have a low reproductive rate, with their productivity linked to prey abundance and seasonal weather. Their primary prey base are rabbits and hares, especially black-tailed hares (jack rabbits) (*Lepus californicus*) (Kochert et al. 2002). The Projects Area provides ample foraging habitat and prey base.

3.1.2 Other Raptors

A variety of other raptors occur within the Projects Area, notably: Swainson's Hawk (*Buteo swainsoni*), red-tailed hawk (*B. jamaicensis*), and prairie falcon (*Falco mexicanus).* Prairie falcon nests were noted within the lease areas and both Swainson's and red-tailed hawk nests were noted near project facilities, particularly in the Fallon area. Additionally, red-tailed hawks were seen foraging though out the entire Projects Area.

3.1.3 Migratory Birds

Numerous migratory birds have been documented in the Projects Area, as 56 species of birds were recorded (BLM 2011). Species such as black-throated sparrow (*Amphispiza bilineata*), Loggerhead shrike (*Lanius ludovicianus*), horned

lark (*Eremophila alpestris*), northern mocking bird (*Mimus polyglottos*), and rock wren (*Salpinctes obsoletus*), are species associated with intermountain basins mixed salt desert scrub and were observed within the lease areas.

Shorebirds and Waterfowl

Two guilds of birds (shorebirds and waterfowl) may be particularly affected by the projects. Carson Lake and Pasture provides habitat for migratory individuals including over 150,000 ducks, 2,000 Canada geese (*Branta canadensis*), 30,000 snow geese (*Chen caerulescens*), and 130,000 shorebirds. Directly within the Projects Area in marsh and playa habitats white-faced ibis (*Plegadis chihi*), killdeer (*Charadrius vociferus*), yellow-headed blackbirds (*Xanthocephalus xanthocephalus*) and great blue heron (*Ardea herodias*) were commonly seen (BLM 2011). Carson Lake and Pasture is a significant production area for white-faced ibis, black-necked stilts (*Himantopus mexicanus*), American avocets (*Recurvirostra americana*), snowy and great egrets (*Egretta thula* and *Ardea alba)*. Species such as willet (*Tringa semipalmata*) and snowy plover (*Charadrius alexandrines*) are few in numbers but breed within the Carson Lake and Pasture area (GBBO 2010).

Breeding and migratory waterfowl within the Carson Lake area includes: redheads (*Aythya americana*), northern pintail (*Anas acuta*), and cinnamon teal (*A. cyanoptera*), (Audubon Society 2010) tundra swan (*Cygnus columbianus*) (GBBO 2010), and lesser snow goose (*Chen caerulescens caerulescens*).

3.2 BIRD POPULATION AND USE WITHIN PROJECTS AREA

3.2.1 Golden Eagle

Adequate records do not exist to provide a complete description of the size, trend, productivity, or geographic extent of the local or regional golden eagle population in western Nevada. Golden eagles are common in all western Nevada valleys, though nesting territories are likely diminishing adjacent to more urban areas such as Reno, Carson City, and Fallon. To support one breeding pair of golden eagles in western North America, 7.2 to 12 square miles (20 to 33 square kilometers) of habitat are needed (Kochert et. al. 2002).

It is likely that the nests located during the baseline surveys represent three active nesting territories. The Projects Area has not been classified as an important eagle use area by NDOW or any other agency. Activity of golden eagles within the Projects Area is likely sporadic due to existing levels of human activity (e.g., gravel quarry, drilling, OHV use). Eagle use in the past may have been more abundant that it is currently.

At least two adults and one sub-adult were noted during the baseline surveys (BLM 2011). It is unknown how many golden eagles may over-winter in the Lahontan Valley, but it is likely the numbers increase during the winter months. The population estimate for Nevada is approximately 3,000 golden eagles (GBBO 2010).

The Lahontan Valley is home to the Naval Air Station Fallon, which provides a near constant source of noise from the variety and frequency of aircraft flown from the base. Birds observed during jet flyovers did not appear to react to the loud low-flying aircraft. Studies of testing grounds for military activities showed no appreciable effect from detonations or other loud sounds by eagles (Brown et al. 1999). Golden eagles did however, respond to vehicular activity, where the birds would flush from a roost upon seeing or hearing a vehicle approach. This appears to be typical for golden eagles, as disturbance from vehicles, off-highway vehicles (OHVs), and individuals have been cited as principal anthropogenic causes of nesting failure (Kochert et al. 2002).

In addition, the population growth in the City of Fallon, which was primarily associated with Naval Air Station Fallon, has led to increased recreational use including OHV use and target practice. The recreational use, coupled with an increase in minerals and energy extraction, increases the likelihood of habitat degradation and fragmentation, which could lead to a reduction in suitable nesting territories. Therefore, there may be only two suitable nesting territories within four miles of the Projects Area, though this is speculative.

3.2.2 Other Raptors

Swainson's hawks nest in relatively low numbers throughout the Great Basin. While numerous Swainson's hawks have been observed nesting within the agricultural areas of the Lahontan Valley, there are no recent census numbers

for the region. However, the population size in Nevada is estimated at 300 individuals (GBBO 2010). Many other raptors occur with relative abundance, such as prairie falcons with 11,000 individuals in Nevada (GBB0 2010). Some resident species, such as northern harrier (*Circus cyaneus*), use the Lahontan Valley more frequently in winter, while other species, such as rough-legged hawk (*Buteo lagopus*), only use the area for over-wintering (Chisholm and Neel 2002).

3.2.3 Migratory Birds

With the exception of shorebirds and waterfowl, the upland habitats within the Projects Area have species numbers and composition that are typical of these habitats.

Shorebirds and Waterfowl

Estimates of annual shorebird use range between 250,000 and 500,000 individuals, including long-billed dowitcher (*Limnodromus scolopaceus)*, western and least sandpipers (*Calidris mauri* and *C. minutilla*), American avocet, long-billed curlew, and black-necked stilt among others (Chisholm and Neel 2002, Audubon Society 2010). Carson Lake and Pasture is noted as having one of the largest white-faced ibis nesting colonies in the western US, averaging 3,000 pairs (Audubon Society 2010). Estimates of willets are around 3,000 throughout the state and snowy plover range from 350 to 1,000 throughout the state as well (GBBO 2010). Waterfowl numbers, such as those for redhead, cinnamon teal and northern pintail, vary from year to year, though they are considered year-round residents with an influx of migratory birds particularly in the fall. Cinnamon teal numbers can be as high as 10,000 breeding pairs in the state (GBBO 2010).

CHAPTER 4
THREAT ASSESSMENT

The threat assessment examines the potential short- and long-term impacts from the development of the projects on bird populations. These include site-specific threats as well as cumulative impacts. The BLM's project-specific EIS analyzes these; however, potential impacts associated with birds are analyzed in greater detail below.

4.1 AVIAN USE OF PROJECTS AREA

As outlined in **Chapter 3**, Species of Interest, a variety of birds may be found within the Projects Area. Raptors, shorebirds and waterfowl have the most potential to be affected by the projects.

The Projects Area is highly fragmented along the northern portion of the site, while in the southern portion, the playa areas are less fragmented. All portions of the Projects Area have roads; some are well-traveled, while others are simply two-track paths. The most obvious anthropogenic disturbance comes from the considerable air traffic from the Naval Air Station Fallon as high speed fighter jets and low-flying slower moving helicopters practice maneuvers within the region. Bombing occurs further south of the Projects Area, beyond the Blow Sand Mountains. Columns of dust and smoke along, with distant explosion sounds, may be seen and heard from Carson Lake and Pasture.

4.1.1 Typical Use of Project Components

Projected avian use of the project components is largely subjective and not well-documented with the exception of transmission line towers. Actual or reported accounts of how birds use some of these features were not available.

Transmission Lines and Poles

Birds, particularly raptors, commonly perch on transmission line towers, presumably because scanning for prey is easier from a lofty perch. Perching would likely be most common in areas where the tower's height would prove advantageous, such as near Carson Lake and Pasture and agricultural areas

where prey would be more abundant. Some tower designs support nest building by raptors and corvids (e.g., crows and ravens).

Power Plants

Power plants are generally surrounded by chain link fencing, which provides a perch for migratory birds, while the inner workings of the power plant may attract species such as house sparrow (*Passer domesticus*) because of shade and areas for nesting. However, it is likely the majority of the avian species would shy away from power plants themselves because of the noise produced during power generation. These facilities are not anticipated to have substantive avian interactions and do not likely pose as threats to birds.

Substations and Switching Stations

Substations have a history of attracting birds during cold spells as they seek the warmth provided by transformers. Newer designs preclude birds from congregating near transformers, but birds would nonetheless be attracted to the chain link fence or other suitable perch sites. These facilities are not anticipated to have substantive avian interactions and do not likely pose as threats to birds.

Geothermal Wells, Injection Wells, and Pipelines

Most of the wells and pipelines are warm and may attract birds during winter months; birds could perch on the well heads and may land on the wrapped pipelines. These facilities produce a hissing noise during operation which may deter some birds. These facilities are not anticipated to have substantive avian interactions and do not likely pose as threats to birds.

4.2 CAUSES OF AVIAN MORTALITY

A variety of factors can lead to avian mortality at utility sites and two primary causes are electrocution and blunt trauma from collision. The majority of the project facilities are not anticipated to have substantive avian interactions and do not likely pose as threats to birds. These facilities are power plants, substations, switching stations, geothermal and injection wells, and pipelines.

4.2.1 Electrocution

Avian electrocutions can occur when a bird completes an electric circuit by simultaneously touching two energized parts or an energized part and a grounded part of the electrical equipment. The reason birds may complete an electric circuit can be attributed to two interrelated factors: environmental factors and engineering factors (APLIC 2006). Improperly constructed power lines, especially distribution lines, are one cause of direct mortality for eagle species and can result in electrocution of birds attempting to utilize these structures for perching and nesting (Harness and Wilson 2001). Eagle mortalities were investigated by the Department of the Interior from the early 1960s to 1995, and electrocution was reported as the second greatest cause of mortality in golden eagles and the third greatest cause for bald eagles (APLIC 2006).

Transmission Line

Electrocution of birds is unlikely from newer constructed transmission lines that use avian-safe practices. Likewise, 230-kV lines do not pose a threat via electrocution due to the distance between the conductor lines and/or ground lines. These spans are greater than six feet, which is the average wing span of a golden eagle.

Bird Nesting on Transmission Line Tower

Nests that pose the greatest risk to birds are those that are built in close proximity to energized conductors and hardware. A nest that is not in close proximity to energized parts may not be an electrocution risk in and of itself, but it could pose a risk to adult birds that may routinely land on other parts of the power pole or surrounding poles where a bird could complete an electric circuit (APLIC 2006). However, the design of the proposed towers minimizes the nesting potential because the towers do not provide adequate anchoring points for nest materials. Nesting on the towers is not an anticipated risk to birds.

Substations and Switching Stations

Electrical outages at substations have been caused by direct animal contact (electrocution), nesting, fecal contamination, and bird fecal streams. To prevent these outages, modern substations and switching stations are constructed to reduce the likelihood of birds interacting with components that may result in electrocutions (and cause power outages). This is done by shielding or enclosing transformers, bus work, circuit breakers, insulators, and switches as well as by design/layout within the stations.

4.2.2 Collision

The transmission lines pose a threat to avian species through collision with the line during flight, the effects of which, until recently, had not been studied. In 2000 and 2001, ten percent of documented golden eagle mortality from collision with small distribution power lines associated with oil and gas wells in central Montana was attributed to mid-span collisions with power lines (USFWS 2009).

Vulnerability to collision depends on many factors including bird behavior and maneuverability, topography, weather, and power line design and placement. Bird collision with power lines has been documented for decades, and risk of collision is considered highest in areas where birds congregate, such as power lines that bisect daily flight paths to meadows, wetlands and river valleys. Generally, shorebirds and waterfowl are considered most at risk of collision in locations where low light conditions or other low visibility situations exist (APLIC 1994). These assessments have been largely based on the notion that birds perceive a hazard in a manner similar to humans.

A recent study on how birds see outlined that many types of birds may have significant "blind spots," increasing risk of collision even during daylight. Movements of a birds head during flight such as scanning below for foraging or

roost site can render them blind to objects in the direction of travel. The study examined only a few species, primarily those known to have high mortality rates associated with power lines (bustards, cranes, and storks), but then extrapolated visual challenges of other orders of birds based on physiology and other published literature. These "blind spots" are related to how birds forage for food, as well as the position and size of eyes (Martin and Shaw 2010). The implication is that some species of birds are more likely to collide with power lines than others, even during optimal flight conditions.

Transmission lines are the project components within the Projects Area that have the greatest risk for avian collision. Cooling towers of the power plants are not likely to pose a threat, nor would substations or switching stations.

Transmission Line

The mechanisms of collision are outlined above and would apply to the proposed transmission lines. The transmission lines have roughly two areas of greatest risk for avian collision. The agricultural land within the Fallon area offers foraging and nesting habitat for a variety of birds. With the exception of white-faced ibis, the majority of the species that utilize these habitats are less likely to collide with the transmission line, as there are already significant obstacles surrounding the fields which they navigate around, including distribution lines, trees, and buildings. The more open landscapes closer to where birds might congregate, such as adjacent to the Carson Pasture area, playa habitats, and near the golden eagle nesting and roosting habitats, likely have the greater risk (See **Appendix A**, **Figures 1-1**, Salt Wells Avian Protection Plan – North, and **1-2**, Salt Wells Avian Protection Plan – South).

4.2.3 Indirect Impacts

Avian species, typically raptors, take advantage of transmission lines, distribution poles, trees and other perch sites that provide viewing advantages. Greater visibility by raptors may result in increased hunting success. However, secondary effects on prey species is a concern where potential prey species concentrate, particularly along meadows and wetlands such as Carson Lake and Pasture where migratory and resident birds occur, including shorebirds and waterfowl. The proposed transmission line closest to these features is north of Carson Lake and Pasture, where it also crosses ditches and other water features particularly along the east-west alignment (see **Figure 1-1**). Transmission lines, depending on structure design may also afford suitable nesting substrates for birds. Cross arms on distribution or lower voltage lines and structures with lattice towers are commonly occupied by corvids and occasionally red-tailed hawks. The proposed design is not commonly utilized by corvids or hawks for nesting, though it could occur. Nesting by raptors or corvids would increase predation in habitat directly surrounding the nest, potentially resulting in a decline in the nesting success of migratory birds.

4.3 GOLDEN EAGLE NESTING TERRITORY

4.3.1 Territory Abandonment

Golden eagles likely utilize a majority of the Projects Area, which provides suitable foraging habitat, with the exception of the playa habitat. It is unlikely that foraging habitat would become unusable after the projects are constructed as only a fraction of the available habitat would be affected. Roost sites also occur within a portion of the Projects Area. During operation, daily trips to power plants and occasional maintenance activities would cause human disturbance; however these activities would likely not cause significant disturbance to the foraging or roosting territory. Short-term disturbance from drilling and construction would likely preclude foraging or roosting near these activities.

4.3.2 Nest and Roost Site Disturbances

One active nesting territory (GOEA 1) exists within an area where activities for geothermal well production have been permitted and are proposed, and the territory would be bisected by one transmission line **Figure 1-2**. This particular nest outcrop may become abandoned over time because: 1) the power line may pose enough of a barrier to foraging activities from the nest site, or 2) the proximity to human activities would cause sufficient disturbance that nesting activities would cease. The second recorded nesting territory (GOEA 2) is not likely to support golden eagle nesting and is excluded from evaluation and monitoring as a golden eagle nesting territory. GOEA 3, the 2010 occupied nest, is not anticipated to have project effects since Highway 50 bisects the nest from the projects.

4.3.3 Habitat Loss and Fragmentation

The majority of the habitat lost would be greasewood flat or mixed salt desert scrub, which provides foraging habitat for golden eagle. This habitat loss would not likely affect golden eagles, as only a fraction of the available foraging habitat would be impacted. However, a greater issue would be fragmentation of nesting territories and habitat, which would occur through expansion of roads, development of pipelines, and construction of transmission lines.

4.3.4 Disturbance Due to Ongoing Human Presence at the Facility

Disturbance at each facility would be primarily limited to the daily activities of plant staff. Daily trips are expected to be minor, and maintenance practices are limited at geothermal sites. Electrical substations and switching stations generally receive only minor maintenance and are largely quiet during their operational life.

4.4 CUMULATIVE IMPACTS

Effects that are likely to result from projects, which have been or will be carried out throughout the anticipated life of these projects, were analyzed in the project EIS (BLM 2011). A variety of existing and potential future actions may

result in incremental changes to wildlife habitat, including habitat fragmentation, noxious weed invasion, reduction of habitat through changes in water management (over drafting through wells, or cessation of water drainage), increased recreation, changes in land management, changes in cattle management, continued expansion of geothermal resources, and minerals extraction. A variety of races or organized events occur within the Projects Area, including OHV races and the Pony Express National Historic Trail Re-ride. One OHV race crosses through the Bunejug Mountains. Wildlife habitat use would be altered but the cumulative impacts are not considered likely to affect population viability of any one species.

Cumulative impacts could result in an increase in the number of transmission lines throughout the Lahontan Valley, increased loss of habitat, continued habitat fragmentation, and an increase in human activities such as recreation. These impacts could result in a decreasing number of avian species that utilize the Projects Area, particularly golden eagle.

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CHAPTER 5
AVIAN PROTECTION MEASURES AND RAPTOR-SAFE MODIFICATIONS

5.1 MORTALITY REDUCTION ACTIONS AND MODIFICATIONS

All aspects of the project components will be built using avian-safe practices suggested by APLIC (APLIC 2006, 1994). Furthermore, SPPC will include actions from the existing corporate APP to promote avian-safe practices and training for project staff (See **Appendix B**, NV Energy Corporate Avian Protection Plan).

5.1.1 Collision

The transmission lines poles would consist of steel or wood H-frame tangent structures, steel or wood three-pole dead-end heavy angle structures, steel single-pole heavy angle dead-end structures, and steel single-pole staggered tangent structures. The use of H-frame structures may increase the visibility of the structures to birds, since the poles would be grouped in pairs connected with cross-bracing. However, three-pole angle structures and single-pole structures require guy wires to support the angle poles and to plumb the structures. Since they are less visible, guy wires could increase the potential for collision. The angle structures are only used when necessary since they are at angle points.

Static lines, which are the uppermost line, are the smallest diameter lines, and therefore, potentially the most difficult for birds to see and avoid. Therefore, these are the lines which are commonly marked for visibility.

As outlined in the EIS, all areas of the transmission line corridor that crosses wetland, riparian, canal, grassland (particularly adjacent to or near Carson Pasture), or golden eagle nesting territory will incorporate flight diverters on the static line to make it more conspicuous. Where any pole requiring guy wires is located near areas of concentrated bird activity, guy wires will be marked to increase visibility where possible. Flight diverter types (e.g., FireFly bird diverters,

spiral vibration dampers, aviation balls) and locations will be determined through consultation with the BLM, USFWS, and/or NDOW; however it is anticipated that the locations would roughly correspond to areas targeted for mortality monitoring (see **Figures 1-1 and 1-2**). Spacing of flight diverters is generally specified by the manufacturers, as well as site conditions. Some flight diverters cause long-term maintenance issues due to failing during windstorms or icing. Regardless of design most of these devices have been demonstrated to be effective (Yee 2007, Barrientos 2011).

5.1.2 Electrocution

All aspects of the substations, switching stations and power lines will be constructed utilizing avian-safe practices as suggested by APLIC using industry standards (APLIC 1994, 2006). Any potential electrocution caused mortality to avian species will be captured under the reporting systems described in Chapter 7 of this APP.

5.1.3 Project Construction

All ground-disturbing activities will be conducted outside the migratory bird nesting season (March 15 – July 31). If ground-disturbing activities cannot be avoided during this time period, pre-construction nest surveys shall be conducted by a qualified biological monitor. For all non-raptor bird species, surveys shall cover all potential nesting habitat in and within 300 feet of the area to be disturbed. Surveys will be conducted between sunrise and 3 hours post-sunrise when birds are most active. Any disturbance or harm to active nests will be reported within 24 hours to the USFWS, the BLM, and NDOW upon detection. The biological monitor may halt work if it is determined that active nests are being disturbed by construction activities and the appropriate agencies will be consulted.

Prior to construction, golden eagle nests located within one mile of any construction activities will be monitored by a qualified biologist. If a golden eagle nest located with one mile of a construction area is active, a one mile no-disturbance buffer zone will be established. Construction may commence once a qualified biologist has determined the young have fledged or the nest is no longer active. Disturbance buffers for other raptors will follow the USFWS Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (1999) to determine appropriate survey areas and disturbance buffers for active nests.

5.1.4 Indirect Impacts

To reduce perching along segments of the transmission line, installation of perch deterrents is recommended. A variety of perch deterrents have been developed for H-frame high voltage towers. Some have great success for deterring perching but offer suitable substrate for nest building (e.g., spikes and spines), while others limit perch time (e.g., narrow vertical steel plates) but still allow perching (Lamers and Collopy 2007). Improving nest features for corvids is not

advisable due to the long-term maintenance of nest removal. Therefore, SPPC will, in coordination with USFWS, BLM and NDOW, agree on the best available perch deterrent for the transmission line north of Carson Lake and Pasture. Exact locations of perch deterrent poles will be determined in consultation with wildlife agencies prior to construction of the line.

Annual inspection of lines and other areas where raptor or corvids might nest along the transmission lines is recommended in areas near Carson Lake and Pasture. Non-active nests are not protected by MBTA and removal should be conducted prior to the next breeding season. Should nesting activity become a long-term issue, measures to discourage nesting activities should be implemented. SPPC has a statewide depredation permit from USFWS for the removal of active corvid nests should the nests be deemed a fire risk. This permit could be expanded to include damage to wildlife (as a result of predation) allowing for removal of the nests during the breeding season (preferably prior to egg laying or hatching).

CHAPTER 6
IMPLEMENTATION

6.1 PERMIT COMPLIANCE

The Proponents may find it necessary in some situations to obtain federal and state permits regarding avian species other than golden eagles as it relates to mortality and avian nest removal and (see discussion under **5.1.3,** Indirect Impacts). These could include incidental take permits, collection or salvage permits, and nest removal and relocation permits. In such a situation, the Proponents may utilize existing SPPC permits outlined in the NV Energy APP or obtain them separately. Here the Proponents will work with the federal and state resource agencies listed in **Section 6.5**, Key Resources, to determine which permits are necessary. Under no circumstances will the Proponents perform any activity requiring a permit without first obtaining the proper permit or authorization to do so.

6.2 PERSONNEL TRAINING

SPPC's APP includes all aspects of corporate practices for bird management and protection. SPPC will implement the training program outlined in their corporate APP. Vulcan and Ormat will implement components of the SPPC training program as outlined in the corporate APP, where applicable and feasible. Personnel training is one of the primary steps. Commitment to training includes a program for all appropriate utility personnel, including managers, supervisors, line crews, engineers, dispatch, and design personnel that will be implemented to reduce avian mortalities along power line and substation structures. This training program will provide the informational resources necessary to improve employees' knowledge and awareness of the APP. The training program includes: reporting methods of avian mortality; avian protection protocols; disposing of carcasses; compliance with applicable regulations; and consequences of noncompliance with federal regulations.

6.3 QUALITY CONTROL

In accordance with the quality control guidelines in SPPC's Corporate APP, the Proponents will periodically assess various parameters and protection measures

described in the current APP to ensure that it is efficient and effective as possible. Parameters that the Proponents will assess include:

- remedial action techniques using follow-up surveys to evaluate their effectiveness in reducing avian mortality;
- avian protection devices to identify products preferred for avian protection as well as ease of application and durability (reducing maintenance costs);
- mortality reporting procedures to ensure that discoveries of avian mortalities are properly documented;
- response to avian mortalities to ensure that appropriate actions are taken in a timely manner;
- compliance with company procedures to ensure that personnel are consistently following company methods for avian-safe construction, mortality reporting, and nest management; and,
- public and agency opinions on system reliability and avian protection.

These parameters would be assessed during each review of the APP if necessary or if appropriate for that period. Additional parameters other than those listed above may be assessed during review of the APP if determined necessary by the Proponents. Although it is only practical to periodically revise or update the APP, the quality control component would be ongoing.

6.4 PUBLIC AWARENESS

A public awareness program can be an integral part of an APP. This program can be used to enhance general public awareness and support for a project's APP. It allows other stakeholders, such as government agencies, Native American tribes, non-profit organizations (e.g., Lahontan Audubon Society), wildlife rehabilitators, and other interested parties, an opportunity to provide input to the decision-making process, enabling all parties to work openly and collaboratively towards recommendations that can be effectively implemented. This collaboration often leads to improved relationships within the community and to more efficient and positive projects. The relationships developed through this process may also encourage the public to report bird mortalities and encourage them to seek assistance for birds that have been injured in power line related accidents (APLIC and USFWS 2005).

SPPC will include avian protection in its ongoing public awareness campaign, which may be concurrent with SPPC's own corporate public awareness campaign. Ongoing public awareness will include the innovative efforts to minimize avian mortalities, the effectiveness of the APP, and ongoing monitoring to detect problem areas. Public awareness materials may be made available through a variety of media.

6.5 KEY RESOURCES

The Proponents will consult with the following key resources to assist in providing expertise in permitting, bird populations and behavior, and avian-safe design features.

- USFWS
- NDOW
- BLM
- Nevada Natural Heritage Program
- Great Basin Bird Observatory
- Edison Electric Institute
- Avian Power Line Interaction Committee

These resources will be utilized as necessary and will further ensure that the Proponents have a successful and effective APP. Resources other than those listed may also be consulted, including consultants, company specialists, and other energy facilities with proven effective avian protection programs.

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CHAPTER 7
AVIAN REPORTING SYSTEM/MORTALITY AND MONITORING STUDIES

7.1 AVIAN REPORTING SYSTEM

In order to assess the effectiveness of the APP and prioritize avian protection needs, the Proponents will report, monitor, and manage all avian injury or mortality in accordance with the methodology below. All appropriate personnel, including managers, supervisors, line crews, and engineers would be provided with instruction on implementing the methodology and properly reporting avian mortality. Avian mortality reporting will be standard practice by the Proponents for the duration of the projects' operation. Avian nesting site reporting will also be performed according to the methodology below.

7.1.1 Detection

The detection of avian injury or mortality could occur through investigation of avian-caused power outages, through monitoring efforts during operation, and through incidental observations by the Proponents' personnel or others during the nesting season from March through July. To improve the probability that birds that have suffered injury or death are detected, the Proponents' field staff will be directed to remain alert for birds within and near the Projects Area. The detection of avian nest sites would occur through monitoring efforts during operation and through incidental observations.

7.1.2 Incidental Casualty, Injured Bird, and Nesting Bird Reporting System

Incidental reports of injured or dead birds associated with project facilities should follow SPPC's APP protocol, with direction from the NV Energy Environmental Services Department. At a minimum, reporting data should include: date and time carcass was discovered; location of the carcass (GPS coordinates, directions, etc.); pole/structure number, facility name, and species (if known); and name and phone number of reporting party. Additionally, pictures should be taken of the bird/carcass, the pole/facility, and the surrounding environment. Based upon the reporting party's information, the NV

Energy Environmental Services Department or environmental staff with Ormat and Vulcan will provide site investigation on raptor mortalities and determine cause of death, submit an internal Avian Injury/Mortality Report Form for future risk assessment, and complete USFWS's online "Bird Fatality/Injury Report" (found at https://birdreport.fws.gov/). Additionally, project-specific documentation should be reported annually to the USFWS. This reporting could be a separate annual submittal or incorporated with annual findings for other project-specific monitoring.

If avian nesting is observed through monitoring or incidental observations within the Projects Area (adjacent to or within project facilities), the Proponents' personnel will record the circumstances and conditions associated with the nest site and nest. The recorded information will be used to determine if the nest and its location present risk of injury or mortality to the nesting birds, and if the nest presents risk to any facility associated with the projects. Active nest removal is subject to a USFWS depredation permit; SPPC has such a permit, and any action must be coordinated through an environmental manager (as outlined in Section 6.1). Golden eagle nests are not part of this permit, and permits are not issued to remove golden eagle nests.

7.1.3 Remedial Action

While there are no legal provisions for an unauthorized take of protected species, the USFWS recognizes that some avian species may be killed even after all reasonable measures to avoid take are implemented. Based upon the information gathered from site investigations and reported on Avian Incident Forms, the Proponents will determine whether implementation of remedial protection measures is substantiated. This determination would be dependent on the frequency of incident occurrences at a particular utility facility, the species that suffered mortality, the likely effectiveness of remedial actions, and agency input and guidance. Likewise, these same factors would determine what types of remedial protection measures and practices the Proponents will implement if such measures are determined necessary. This plan recommends developing thresholds with agency input. A tiered approach (e.g., high, medium and low) is recommended for establishing mortality thresholds. As a starting point, species that are included the BLM list of sensitive species, USFWS MTBA birds of conservation concern, and game birds below desired conditions (See **Appendix C**, BLM Migratory Birds of Concern), as well as all diurnal raptors that do not occur on this list, would fall within the high category. Mortality of <10 individuals from the high category detected per year would trigger remedial action and mortality of one golden eagle would trigger remedial action. The medium category would include waterfowl and shorebirds that are not included on this list, which rely on Carson Lake and Pasture or wet playas for migration or breeding. Example species include white-faced ibis (*Plegadis chihi*), egrets (*Egretta* sp., *Ardea* sp), grebes, and ruddy duck (*Oxyura jamaicensis)*; however a list will be drafted in consultation with USFWS, BLM and NDOW. Mortality of species in the medium category would trigger remedial action should mortalities

fall above 20 individuals per yearly monitoring. Low concern species would include the upland associated birds not recognized on a state or federal list but protected under the MBTA; species such as horned lark (*Eremophila alpestris*) would fall in this category. Individuals detected during the mortality monitoring studies would need to fall above 25 individuals to trigger remedial action.

7.2 MORTALITY MONITORING STUDIES FOR COLLISION

7.2.1 Goals and Objectives

One goal of the post-construction monitoring program is to ensure that potential avian mortality resulting from interaction with the project facilities remain minimal. Another goal of the monitoring program is to allow the Proponents to identify risks and key avian interaction areas and develop adaptive management practices to minimize these risks. To achieve these goals the monitoring program would establish these objectives:

- Estimate avian mortality caused by all aspects of facility operation.
- Assess nesting habits and preferences on or near project facilities, if applicable.
- Assess territorial abandonment, nest avoidance, and changes in population status within and adjacent to the project footprint among avian species.
- Assess changes in avian behavior caused by all aspects of facility operation (e.g., noise, lighting).
- When adaptive management practices have been utilized to reduce bird mortality, assess the adequacy of avoidance practices and minimization measures that were implemented.

7.2.2 Monitoring Methods

Monitoring methods are constantly improving as researchers develop new and more accurate methods of survey and mitigation techniques. The Proponents will consider refinement to the monitoring methods and mitigation practices described below and adoption of new survey techniques or protocols as they become available. Any refinement of the monitoring program will occur through consultation with the USFWS, BLM, and/or NDOW. The monitoring program may be adjusted to include additional objectives as determined necessary during implementation and practice, or through consultation with the USFWS, BLM, and/or NDOW. Future monitoring may include remote devices such as line-strike detectors or video monitoring cameras. Such devices may reduce the overall cost of monitoring.

Duration and Timing

The monitoring program (i.e., frequency and duration) will be developed in consultation with the USFWS to capture differences in parameters due to seasonal and annual variability. Monitoring will focus on the collision hazard of

the transmission lines located on federally-administered lands, lands owned by the Proponents and privately owned lands in areas considered at risk for bird collision. Final areas to be monitored will be determined through coordination with wildlife agencies. However, these areas will generally include the east-west segment of the transmission line north of Carson Lake and Pasture and areas around active golden eagle nests, such as GOEA 1 south to GOEA 2. The proposed mortality monitoring study areas are shown on **Figures 1-1** and **1-2**. For the SPPC line, the study area covers 6.5 miles of the proposed transmission line corridor. The majority of this study area would cross private lands, thus prior approval from the landowners would be necessary. The monitoring study area adjacent to GOEA 1 and GOEA 2 (**Figure 1-2**) covers approximately 2 miles of the proposed transmission line corridor.

Monitoring programs will be modified, as appropriate, if mortality is regular and persistent, or if the projects result in mortality thresholds being reached (see **Chapter 7.1.3**). If regular mortality of a covered species is observed in a particular area or areas during the initial monitoring period, the USFWS could require monitoring to be extended in that specific area or areas. Monitoring will be scheduled to ensure that data collection occurs during breeding and migration periods, spring and fall, as bird use will vary seasonally. Monitoring will conducted during the same time annually. The frequency of mortality surveys will be based on USFWS recommendations, during these periods for three years of operation of the projects (USFWS 2010). The survey frequency could be adjusted for the subsequent years depending on the results, if appropriate.

Survey techniques for the monitoring program will be designed to capture typical biases: (1) removal by scavengers; (2) imperfect detection by human or canine searchers; and (3) site- and carcass-specific covariates that may influence the first two, such as vegetation height, type and density, carcass coloration and size, or microtopography. The survey strategy should be based on estimators outlined in Manuela Huso's "An estimator of wildlife fatality from observed carcasses" (Huso 2010), here Huso has developed a statistical model for scavenger removal, observer bias and other variables. Similar statistical models are being developed rapidly as a result of increased avian and bat mortality monitoring requirements for energy projects worldwide. Nonetheless, all survey techniques, bio-statistical models or other techniques used to assess mortality associated with the transmission lines will be developed in coordination with the USFWS or BLM.

Carcass Searches

The procedures and methodology that the Proponents would implement for tracking avian mortality resulting from collision would be performed under transmission lines and power poles within the proposed mortality monitoring study areas (Figures 1-1 and 1-2). The methods are broken into two primary components: 1) standardized carcass searches, and 2) an incidental casualty and injured bird reporting system, as outlined in Section 7.1.2.

Biologists trained in proper search techniques will conduct the fatality searches. The avian mortality monitoring study will begin once each of the transmission lines are constructed and operational. For the purposes of fatality searches, the following dates will be used to define seasons: spring migration (March 16 through May 15); breeding season (May 16 through August 15); and fall migration (August 16 through October 31). In reality, spring migration overlaps with part of the raptor breeding season.

Transects will be initially set at 6 to 10 meters apart, depending on habitat, parallel to the transmission line, and the searcher will walk along each transect searching both sides out to 3 to 5 meters for carcasses. Search speed will need to be adjusted by habitat type. For all casualties found, regardless of species, data recorded will include species, sex, age, date and time collected, location, distance to centerline of transmission line, condition, and any comments regarding possible causes of death. The condition of each fatality found will be recorded using the following condition categories:

- Intact – carcass is completely intact, is not badly decomposed, and shows no sign of being fed upon by a predator or scavenger.
- Scavenged – entire carcass shows signs of being fed upon by a predator or scavenger, or a portion(s) of a carcass in one location (e.g., wings, skeletal remains, legs, pieces of skin, etc.).
- Feather Spot – 10 or more feathers or 2 or more primaries at one location indicating predation or scavenging.

Total number of avian carcasses will be estimated by adjusting for "removal bias" (e.g., scavenging), searcher efficiency bias, and sampling effort through statistical models such as those developed by Huso. Carcasses where the cause of death is not apparent will be included in the fatality estimate. Including fatalities when cause of death is unknown will lead to an overestimate of the true number of collision fatalities; however, this is generally preferable to the high cost of necropsies. Should a diurnal raptor be located during the searches, a necropsy should be considered.

Reporting Monitoring Data

Reporting of the post-construction monitoring results would be compiled and submitted annually to the USFWS, the BLM, and/or NDOW. These reports should include incidental reports as well. The reports will include mortality information for avian species as a collective group, as well as on an individual species basis. The total mortality suffered by species will be further broken down into mortalities suffered at each major component of the utility system (e.g., transmission lines, etc.). Additionally, the report will list and tally avian species based on the tiered thresholds outlined in **Chapter 7.1.3**. Beginning with the report of the second year of monitoring, a summary of the mortality data from the previous year will be included in the report for comparison purposes. The ability to compare will help determine if adaptive management

practices are needed, where they are needed, and whether adaptive management practices that were implemented were effective or not. If mortality of a bald or golden eagle is observed, it will be immediately reported to the USFWS. Likewise, if unusually high numbers of mortalities (such as those described above in **Chapter 7.1.3** Redial Action) are occurring, the Proponents will notify the USFWS as soon as possible upon compiling data from each monitoring session.

7.3 MONITORING GOLDEN EAGLE NEST TERRITORY

Monitoring a golden eagle nesting territory will follow the survey methodology and protocols outlined in the USFWS *Interim Golden Eagle Technical Guidance and Protocols* (Pagel et al. 2010) for ground surveys or other methodology acceptable to USFWS, BLM, and/or NDOW. This survey protocol is intended to standardize procedures to identify occupied areas and inventory and monitor golden eagles within the direct and indirect impact areas of planned or ongoing projects where disturbance may cause take. Additionally, the protocols intend to minimize potential observer - related disturbance to golden eagles by requiring that surveys are conducted by experienced biologists.

Goals and Objectives

- Record and report occupancy and productivity of local golden eagle territories.
- Determine nesting chronology.
- Evaluate whether and which activities or conditions may be affecting golden eagles.
- Determine if the nesting territory within the Projects Area becomes abandoned.

7.3.1 Monitoring Methods

At least four surveys will be conducted during the year along all suitable nesting habitat for golden eagles within the Bunejug Mountain area (this includes GEOA 1 south to GOEA 2). Additionally, GOEA 3 should be periodically surveyed during the monitoring efforts, specifically for use by golden eagles. During breeding season, at least two surveys will be conducted to capture behaviors such as courtship, nest building, incubating, nestling period, and fledging. In addition, one survey in the spring season and one in summer will be conducted. Observation points should be established to offer an unobstructed view of the nest locations and surrounding habitat. Observations should last at least 4 hours per site and observations of behavior should be documented. All birds that are observed will be documented, especially those of other raptor species, particularly if nests are occupied or if courtship, territorial, or similar behavior is noted.

Duration and Timing

Surveys should commence during the first two weeks of March and should end by mid-June, unless unusual seasonal variation disrupts the breeding season. Surveys should be conducted prior to construction of the projects through the first seven years of operation or as required by USFWS. If no nesting activities occur at GOEA 1 or other active GOEA nest locations after seven consecutive years, the nesting territory will be considered abandoned after consultation with the USFWS.

Reporting Monitoring Data

Annual reports will be compiled and submitted to the USFWS, the BLM, and/or NDOW. The reports will include methodology, dates and times of nest territory monitoring, species encountered, other raptor behavior observed, observed use of or behavior around project components, golden eagle nesting behavior (courtship, nest building, incubating, feeding, etc.), and any observed nestling and/or fledgling. After the first year report, all subsequent reports will have the previous years' summaries included.

CHAPTER 8
ADAPTIVE MANAGEMENT ACTIONS

8.1 ADAPTIVE MANAGEMENT APPROACHES

8.1.1 Proactive Approach

The proposed facilities and structures will be built according to avian-safe standards (APLIC 2006, 1994). As such, the potential for an avian-utility interaction would be minimized, which can help prevent possible violations of the MBTA, ESA and Bald and Golden Eagle Protection Act.

8.1.2 Reactive Approach

Reactive measures would include protection measures implemented after bird mortality has occurred as outlined in Chapter 7.1.3. Most reactive measures would be developed through adaptive management practices, such as, but not limited to, utilization of different flight diverters, hazing, or for golden eagles alterations in vehicular traffic or other operational activities As incidents occur, the Proponents will respond appropriately through documentation via the Avian Reporting System (see **Chapter 7**). The Proponents will evaluate the circumstances leading to the incident and begin taking proper action to prevent similar incidents in the future in consultation with the USFWS.

8.2 IMPLEMENTATION

The measures identified in **Chapter 5** are the primary methods to reduce potential avian mortality for transmission line projects. However, where despite the use of such methods, the Proponent identifies unexpectedly high mortality or unexpected impacts to protected species or their habitats, the Proponents will work with agencies to identify appropriate adaptive management mortality reduction or mitigation measures.

8.2.1 Collision and Electrocution

Adaptive management measures for collision may be implemented after the mortality of one diurnal raptor or unusually high numbers of other types of migratory birds. Adaptive management measures must be tailored to the

identified problem (e.g., a specific species, specific location, or specific season) and would benefit from collaboration with the agencies to determine a solution. Additional monitoring may be an appropriate first step if it is not clear why the risks to birds were unusually high; however, monitoring alone will not be considered adequate mortality reduction or mitigation if that additional monitoring confirms elevated risk levels.

If additional monitoring confirms elevated risks to birds, then the following adaptive management measures may be considered:

- In extreme cases of documented mortality, the Proponents recognize that agencies will expect the Proponents to consider operational changes to reduce mortality. These actions may include utilizing new or different technology to reduce risk to migrating or resident birds.
- Obtain landowner agreement for modification of habitat within private lands, such as changes to hay mowing schedules, restoration, curtailing production, or other actions that may reduce or enhance bird use.
- Installation of nest platforms, which may increase avian productivity where nesting structures limit populations (APLIC 2006).

8.2.2 Loss of Golden Eagle Nesting Territory

USFWS requires compensation for projects which cause the permanent abandonment of a nesting territory. In order to avoid the long-term decline in the golden eagle population, compensating for the impact by replacing or providing substitute resources or environments is required. Should monitoring data suggest territory abandonment of the GOEA 1 or other active golden eagle nesting territory within the Bunejug Mountains after seven consecutive post-construction years of inactivity, the following would apply to the lost territory for reparation of the nesting habitat.

Habitat Equivalency Analysis

Habitat Equivalency Analysis is an analytical framework originally developed to calculate compensation for loss of ecological services resulting from degradation of a natural resource over a specific interval of time (NOAA 2006).

Essentially, the analysis calculates the amount (e.g., acres) of habitat to be created or enhanced to replace an equivalent level of ecological functions over time that were lost due to habitat degradation and loss. The Habitat Equivalency Analysis approach is not a valuation method but rather a "cost-replacement" method. The function of the analysis is to estimate the quantity of the ecological function associated with any given unit of lost or degraded habitat that would be equivalent (same type and comparative value) to a unit of the proposed replacement habitat (NOAA 2006). However, in actuality metrics for golden eagles should be in terms of productivity of a territory, specifically that of a

female within that territory. A golden eagle can live to 30 years of age. A female may produce other females over her lifetime and her surviving female off-spring have the potential to do the same over the course of their breeding lifetime. For statistical calculations of reproductive loss over time see Appendix F of the Draft Eagle Compensation Plan Guidance (USFWS 2011).

Habitat Analysis

The habitat in which the golden eagle nesting territory exists is far from pristine as it is located adjacent to private land that is currently an operational gravel quarry. The quarry does not operate full time and is not easily visible from the nest outcrop. Daily operational noise would not likely preclude nesting at the outcrop; blasting, however, would. A road approximately 0.30 mile (0.49 kilometer) from the outcrop bisects the nest outcrop from foraging habitat and eagles are easily flushed from the nest location with each passing vehicle. Within approximately one mile (1.6 kilometers) of the nest outcrop, there are three approved/permitted wells, five proposed wells, one existing well, and one proposed power plant. Geothermal drilling activities have occurred and will continue to occur. The Projects Area is also gaining popularity for recreation particularly in the form of OHV use.

Compensation for Loss of Nesting Territory

It is unclear how many females have had successful nesting attempts within the Projects Area within the past 5 years or more. Given the condition of GOEA 1, successful nesting has not occurred in likely over five years, possibly more. A new nest was incidentally located in 2011 which indicates this territory is active. In 2010, GOEA 3 may have been utilized by the same pair that has been associated with GOEA 1 and the new 2011 nest. It is clear that the current land uses and degradation of the habitat quality from cumulative events surrounding the nesting territories have potentially caused at least GOEA 1 to be an unviable nesting territory. However, compensation metrics must include productivity. Pre-project monitoring of the golden eagle nesting territories (those outlined in **7.3.1**) would help with the understanding of golden eagle use and potential issues with the lack of nesting success within the Projects area. Further coordination with the USFWS is required to determine the best approach in assessing applicable metrics for determining compensation measures for territory abandonment. Typical compensation may fund restoration projects, retrofitting other transmission lines to prevent golden eagle electrocution, road closures adjacent to active golden eagle nests, support for monitoring local or regional golden eagle populations, or other projects. Compensatory value of the lost nesting territory or territories or other metrics for valuation would be determined through consultation with the USFWS, BLM, and/or NDOW.

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CHAPTER 9
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APPENDIX A
FIGURES

Figures 1-1, Salt Wells Avian Protection Plan – North, and 1-2, Salt Wells Avian Protection Plan – South, can be found on the following pages.

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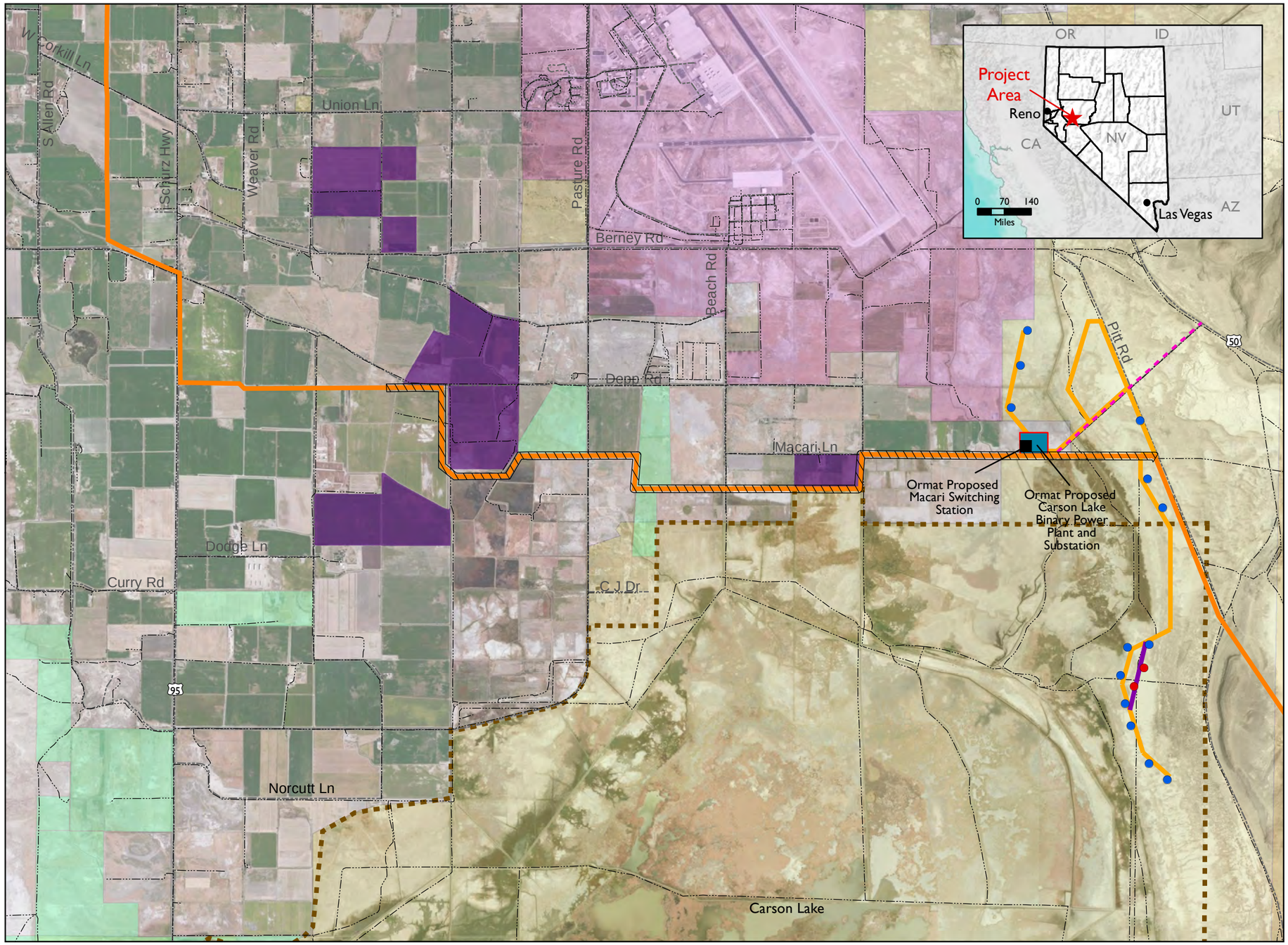

Salt Wells Avian Protection Plan- North

Churchill County, Nevada

SPPC Facilities
- Alternative 3 (Preferred) 230 kV Transmission Line Corridor
- Alternative Macari Fiber Optic Line

Ormat Facilities
- Proposed Pipeline
- Alternative Pipeline
- Proposed Well Pad
- Alternative Well Pad

Other Features
- Mortality Monitoring Study Area
- CLP Title Transfer
- Existing Conservation Easement

Land Ownership
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Fish and Wildlife Service
- Private Land (Including city and county lands)

*Based on data received from Churchill County on July 26, 2011. Only existing conservation easements within the Region of Influence along the transmission line alternatives are displayed.

Source: BLM, Ormat, SPPC, Vulcan 2010, Churchill County 2011, Navy 2011

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August 2011
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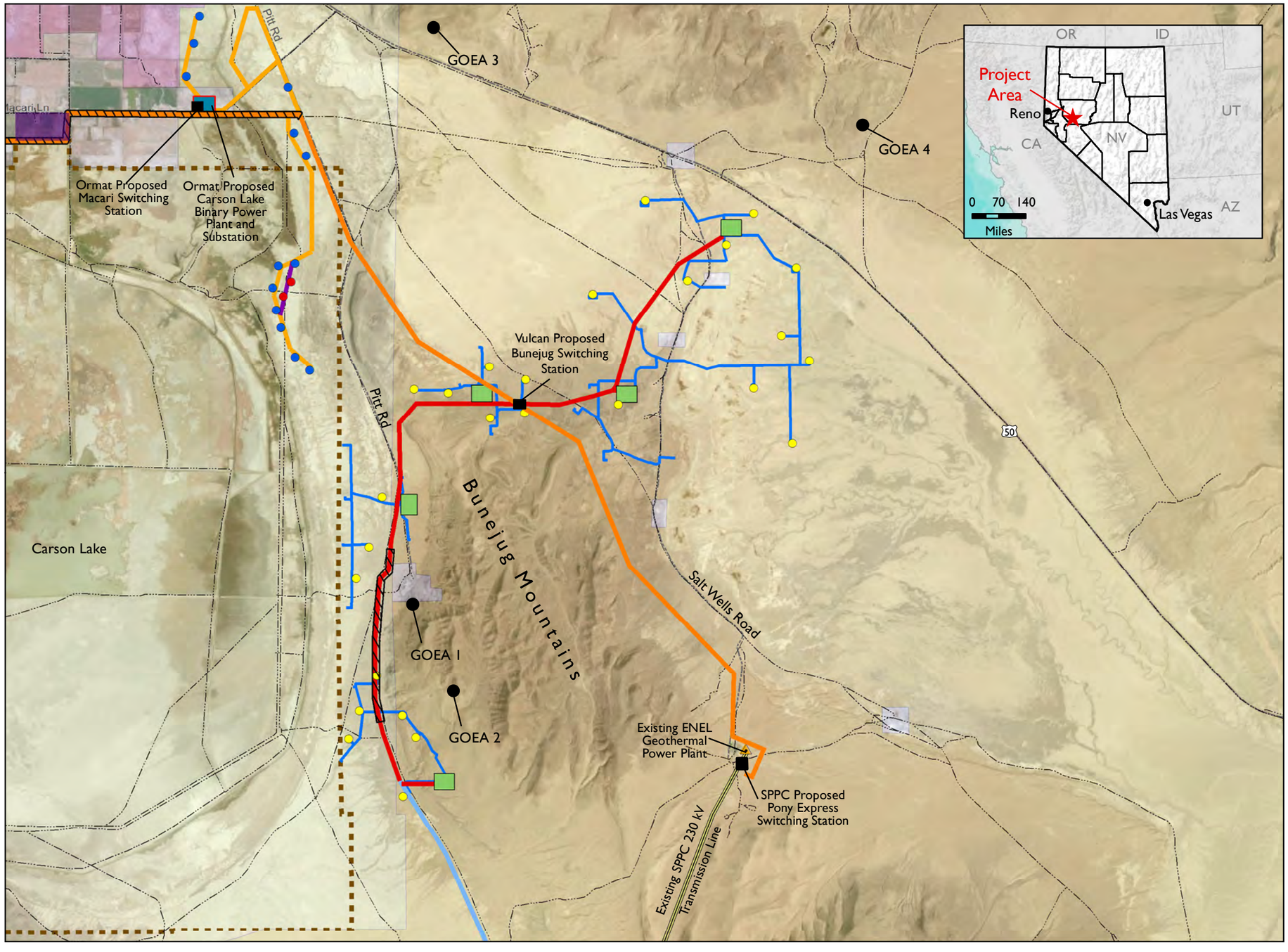
Disclaimer: No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

Figure 1-1



Salt Wells Avian Protection Plan- South

Churchill County, Nevada

Vulcan Facilities
- Vulcan Project Area Boundary
- Proposed Well Pad
- Proposed Steamfield Pipeline and Associated Road

Vulcan Facilities Alternate
- Proposed 230 kV Interconnection Line
- Alternative 230 kV Interconnection Line
- Proposed Power Plant and Substation

Ormat Facilities
- Proposed Pipeline
- Alternative Pipeline
- Proposed Well Pad
- Alternative Well Pad

SPPC Facilities
- Alternative 3 (Preferred) 230 kV Transmission Line

Other Features
- Mortality Monitoring Study Area
- Golden Eagle Nests
- Existing Power Plant
- Proposed Switching and Substations
- Existing 230kV Transmission Line
- CLP Title Transfer
- Existing Conservation Easement

Land Ownership
- Bureau of Land Management
- Bureau of Reclamation
- Department of Defense
- Private Land (Including city and county lands)

Source: BLM, Ormat, SPPC, Vulcan 2010, Churchill County 2011, Navy 2011

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August 2011
NAD 1983 HARN State Plane Nevada West
Disclaimer: No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data.

Figure 1-2

APPENDIX B
NV ENERGY CORPORATE AVIAN PROTECTION PLAN

The NV Energy Corporate Avian Protection Plan can be found on the following pages.

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NEVADA POWER COMPANY AND
SIERRA PACIFIC POWER COMPANY
d/b/a NV ENERGY
CORPORATE AVIAN PROTECTION PLAN

2010

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I. NV Energy Bird Management Policy

II. Training

III. Permit Compliance

IV. Construction and Modification Design Standards

V. Avian Mortality Reporting and Protocol

VI. Risk Assessment Methodology

VII. Mortality Reduction Measures

VIII. NV Energy's Roles and Responsibilities

IX. Quality Control

X. Public Awareness

XI. Key Resources

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Appendix B Depredation and Scientific Collection Permits

Appendix C Environmental Services Contact Information

I. NV ENERGY BIRD MANAGEMENT POLICY

Bird interactions with power lines may cause bird injuries and mortalities, which, in turn, may result in outages, violation of bird protection laws, grass and forest fires, or raise concerns by employees, resource agencies, and the public. NV Energy (NVE) is committed to minimizing its impact on endangered species and migratory birds, while providing reliable, cost effective electrical services and incorporating the best available technology in protecting Nevada's wildlife resources.

The goals of NVE in achieving avian protection include:

- Ensure NVE's actions comply with the Migratory Treaty Act of 1918 (16 U.S.C. 703-712), the Bald and Golden Eagle Act of 1940 (16 U.S.C. 668), and the Endangered Species Act of 1973 (16 U.S.C. 1538).
- Document and report bird mortalities, identify problem poles, lines, and problem nests to retrofit and prevent future mortalities.
- Provide information, resources, and training to improve its employees' knowledge and awareness of the Avian Protection Plan (APP).
- Construct all new or rebuilt facilities in areas of raptor use to NVE's avian-safe protection standards in accordance with Avian Power Line Interaction Committee and Edison Electric Institute's "Suggested Practices for Avian Protection on Power Lines."
- Retrofit or modify power poles where protected and migratory birds were injured or killed in past occurrences.
- Participate with public and private organizations in programs and research to reduce detrimental effects of bird interactions with power lines and equipment.

To assure a continued commitment toward avian protection, NVE will coordinate efforts with members as an ad hoc Avian Protection Steering Committee. The committee coordination would consist of any or all of the following:

1. NVE Executive of Environmental Services
2. Committee Administrator
3. NVE Executive(s), Regional HUB Operations
4. NVE Manager(s) of Lines Construction & Maintenance
5. NVE Environmental Scientist(s)
6. USFWS Representative(s)
7. NDOW Representative(s)

II. TRAINING

A training program for all appropriate utility personnel, including managers, supervisors, line crews, engineers, dispatch, and design personnel will be implemented to reduce avian mortalities along power line and substation structures. This training program will provide the informational resources necessary to improve its employees' knowledge and awareness of the APP. The training program will include:

A. Reporting Methods of Avian Mortalities

In order to assess and prioritize avian protection needs, mortality reports will be a key component in identifying and reducing the impact on avian electrocutions and outages. Management and utility personnel will be trained in providing the appropriate reporting information to NVE's Environmental Department *(see Appendix A - NVE's Avian Mortality Report Form).*

An additional information source is the company's outage reporting system. The Environmental Services Department will access this system routinely to determine if listed outages were bird related and initiate corrective actions.

NVE's Environmental Services Department will continue to investigate bird related mortalities gathered from NVE's monitoring practices, state and federal agencies, and the public. NVE's District Managers and personnel will be informed not to move any bird and to allow NVE to investigate, transport, or properly dispose of the carcass based upon NVE's permit requirements and direction from the USFWS.

B. Avian Protection Installation Protocols

Based upon the information gathered from site investigations and mortality incidents, NVE's Environmental Services Department will coordinate avian protection remediation activities with standards and the District Manager. The District Manager shall be responsible in providing the avian protection remediation activities within the existing operations and maintenance budget, while maintaining the District's ability to provide reliable electrical services to the customer.

Projects of greater magnitude and resources, defined as capital improvements, will require additional planning and logistical coordination between NVE's Project Manager and the current existing practices to comply with the avian protection guidelines provided in the APP.

C. Disposing of Carcasses

It is strictly prohibited for field personnel to transport or dispose of a bald or golden eagle carcass. All eagles will be immediately reported to, and recovered by, NVE's Environmental Services Department and transported in accordance to its permit conditions. Upon being notified, USFWS will direct NVE on retrieval and receipt of the eagle carcass.

Disposing of all other raptors and bird carcasses on-site may only occur based upon consent from the USFWS. NVE's Environmental Services Department must be notified immediately of an avian electrocution or collision and informed of the species killed, if known. To assist the field personnel in bird identification, handouts will be provided to each District Office for distribution to the operation fleets. If unsure of the species, an NVE representative will mobilize to the site for species determination and/or retrieval.

D. Compliance with Applicable Regulations

The practices established in this APP are designed to meet the requirements of the Migratory Bird Treaty Act (MBTA), the Bald and Golden Eagle Protection Act (BGEPA), and the Endangered Species Act (ESA). It is NVE's mission to retrofit structures with a history of avian injuries/mortalities and ensure that new construction meets the required guidelines established by the Edison Electric Institute.

E. Consequences of Non-Compliance to Federal Regulations

A violator of the MBTA by the killing or taking of a migratory bird may be fined up to $15,000 and/or imprisoned for up to six months for a misdemeanor violation.

A violator of the BGEPA may be fined up to $100,000/$200,000 (individual/organization) and/ or imprisoned for up to one year. The second offense is a felony and upon conviction may result in a $250,000/$500,000 (individual/organization) fine or be imprisoned for two years or both.

A violation of the ESA, which includes threatened species, prohibits take which includes harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect. The unlawful take of an ESA listed species may result in a fine of $100,000/$200,000 (individual/organization) or imprisonment for one year or both.

The MBTA, BGEPA, and ESA have no provisions for allowing incidental take, therefore, allowing federal and state wildlife enforcement agencies to impose penalties for each incident. *Depending on the species, a bird could be protected by all three Acts.*

III. PERMIT COMPLIANCE

NVE maintains two federal permits regulated by the USFWS and one state permit regulated by the Nevada Division of Wildlife (NDOW) permit to include, but not limited to, nest relocation, temporary possession, depredation, salvage/disposal, and scientific collection. Renewal of these permits, notification procedures, compliance, and annual reporting will be the responsibility of NVE's Environmental Services Department *(See Appendix B-NVE's Special Purpose and Depredation Permits)*. The permits and their conditions are as follows:

USFWS- Depredation Permit:

Authorizes NVE to remove and destroy up to 100 active Raven nests when built on power line structures and substations that are an imminent fire hazard. NVE may also remove and destroy nests in location/heights that are not safe to reach or relocate. Whenever possible, the permit recommends that chicks should be rescued and transferred to a licensed wildlife rehabilitator. **All NVE personnel must first coordinate with the Environmental Services Department before actions can be taken to exercise the conditions of this permit.**

USFWS-Special Purpose Permit*:*

Authorizes NVE for emergency removal of nests from transmission and distribution systems to prevent electrocution of birds and prevent power outages; allows for removal and/or relocation of active nests (eggs or young present) that could be affected by construction, reconstruction, modification or maintenance activities; allows for recovery of sick or injured migratory birds and transportation of those birds to a wildlife rehabilitation facility holding federal and state permits. Dead birds may be picked up and disposed of as directed by the USFWS Law Enforcement Office. Eagles and endangered species must be recovered and delivered/received to the USFWS Law Enforcement Office. **All NVE personnel must first coordinate with the Environmental Services Department before actions can be taken to exercise the conditions of this permit.**

NDOW-Scientific Collection Permit:

Authorizes NVE to remove inactive nests from electrical transmission & distribution systems to prevent electrocutions and power outages (excludes nests of eagles and endangered species); allows for removal or relocation of active nests that could be affected by construction, reconstruction, modifications, or maintenance activities- on a case-by-case basis; pick up sick or injured birds and other non-listed wildlife species and transport to rehabilitation facilities holding state and federal permits; salvage dead birds and other non-listed wildlife species; eagles and endangered species must be delivered/received by the USFWS. **All NVE personnel must first coordinate with the Environmental Services Department before actions can be taken to exercise the conditions of this permit.**

IV. CONSTRUCTION AND MODIFICATION DESIGN STANDARDS

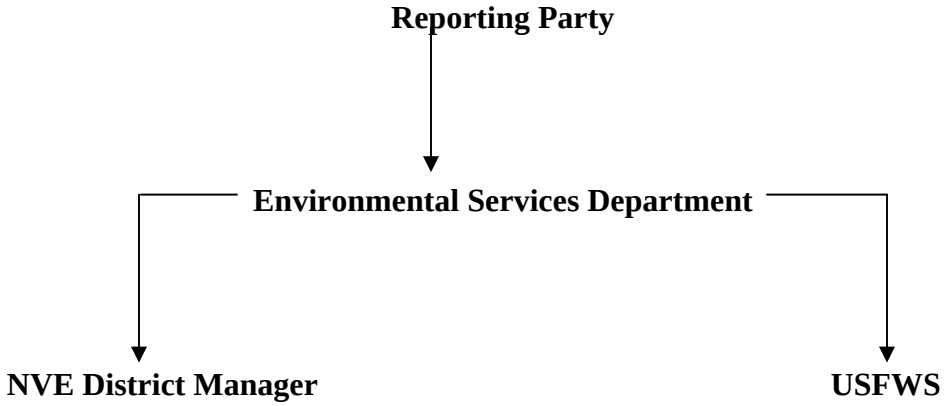
Avian protection construction on both new and existing lines shall meet the specifications provided in the Final Project Report published in 2006 by the Edison Electric Institute and the Avian Power Line Interaction Committee (*Suggested Practices for Avian Protection on Power Lines.).* NVE's APP requires that these standards be implemented when providing avian protection.

Avian-safe construction, designed to prevent electrocutions, should provide separation of 60 inches between energized conductors and grounded hardware. If such spacing is not possible, the energized parts and hardware should be covered meeting the 60 inches separation standard of the APLIC guidelines.

V. AVIAN MORTALITY REPORTING AND PROTOCOL

A well implemented reporting system can assist in pinpointing the location of mortalities and establish priorities in avian protection. Managers, supervisors, and field personnel will be trained in accordance to the APP's reporting requirements and protocol.

NVE'S AVIAN MORTALITY REPORTING PROTOCOL



The reporting party or District Manager of an avian mortality will immediately contact NVE's Environmental Services Department with the following information*: (See Appendix D-NVE's Environmental Services Contacts)*

Date/time carcass was discovered
Location of the mortality (GPS coordinates, directions, etc…)
Pole/structure number and/or facility name
Species (if known)
Name and phone number of reporting party

If possible, pictures should be taken of the bird/carcass, the pole/facility, and the surrounding environment. Based upon the reporting party's information, NVE's

Environmental Services Department will provide site investigation on raptor mortalities and determine cause of death, submit an internal Avian Injury/Mortality Report Form for future risk assessment, and complete USFWS's online "Bird Fatality/Injury Report."

VI. RISK ASSESSMENT METHODOLOGY

NVE's Environmental Services Department will gather and review the available data accumulated from site investigations and mortality reports addressing areas of high avian use, avian mortality, and problem nests. The information received from the risk assessment data will be the key component in prioritizing avian protection remediation on existing power lines and setting standards for new construction activities. NVE's Environmental Services Department will serve as the liaison with the District Managers and NVE's Avian Protection Committee in prioritizing avian protection within NVE's transmission and distribution system.

VII. MORTALITY REDUCTION MEASURES

Mortality reduction measures will be implemented based upon the information provided in the risk assessment data. The key to reducing avian mortality is focusing efforts on the areas that pose the greatest risk to migratory birds and ensuring that future construction incorporates the designs and guidelines recommended by USFWS, EEI and APLIC. NVE's Environmental Services Department will work closely with District managers and wildlife agencies to determine and prioritize these areas for remedial action.

Management support is critical in implementing an avian mortality reduction plan. The key components to this plan include:

- Assessment of facilities to reduce risk
- Allocation of resources
- Standards for new or retrofit avian-safe construction
- Budget for operation and maintenance (O&M) and capital investment
- System for tracking remedial actions and associated costs
- Timely implementation of remedial measures
- Positive working relationship with state and federal wildlife agencies.

VIII. NVE'S ROLES AND RESPONSIBILITIES

NVE Avian Protection Committee:

1. Establish a budget and allocation of resources to implement an effective corporate supported APP.

2. Meet on a periodic basis to review the existing APP and determine if improvements can be made to maximize the effectiveness of the plan.

3. Review the remedial actions completed within the Districts on an annual basis through the risk assessment report and set goals for the following year.

4. Maintain a continued dialogue with agencies and interested parties to address concerns and improve the process of reducing avian mortality.

5. Provide a public outreach mechanism through fact sheets, newsletters, brochures, and websites conveying NVE's commitment to avian species protection.

NVE Environmental Services Department:

1. Act as the primary contact for NVE's District Managers, regulatory agencies and private parties reporting avian mortalities from power line electrocutions.

2. Provide on-site investigations of reported avian mortalities. The investigations will provide information gathering to prevent future mortalities and to provide the information needed for the notification process required by the USFWS.

3. Act as the contact for field personnel in salvage and disposal options of avian electrocution and collision mortalities.

4. Coordinate remedial actions with the District Managers to prevent future mortalities in areas of recorded electrocutions and collisions.

5. Provide the required reporting of avian mortalities by completing the avian mortality form and USFW's online "Bird Fatality/Injury Report." An annual mortality report will also be competed in compliance to the NVE's permit requirements.

6. Act as an informational source to NVE's Avian Protection Committee.

District Managers:

1. Notify NVE's Environmental Service Department on all avian mortalities immediately with the information outlined in the reporting protocol requirements.

2. Coordinate with line crews to remediate problem power lines based upon requests from NVE's Environmental Services Department and dialogue with federal and state wildlife agencies.

3. Provide guidance to field personnel in coordination with NVE's Standards Department in compliance to NVE's APP and the National Electric Safety Code when implementing avian protection.

Field Personnel:

1. Notify NVE's Environmental Services Department or District Manager immediately of an avian mortality.

2. Complete all avian protection remediation activities in accordance to NVE's APP and the National Electric Safety Code.

IX. QUALITY CONTROL

On an annual basis, the NVE Avian Protection Committee will review existing practices of the APP and ensure its efficiency and effectiveness. The review process will include internal operating procedures, more effective avian protection technologies, and budget review to meet the requirements of NVE's APP. Notification of changes to the APP will be addressed in follow up training sessions and collaboration with NVE's District Managers and personnel.

In addition to the internal quality controls, an annual progress report will be prepared for the USFWS and NDOW. This progress report will show the remedial activities and locations from the past year. The report will also provide initiatives set for the following year.

X. PUBLIC AWARENESS

NVE will develop a method for educating the public about NVE's commitment in protecting and preserving wildlife in Nevada and the Tahoe Basin, the company's avian protection program, and its successes in avian protection. Public awareness and education can be accomplished through NVE's online publications and leaflet information included in customer billing statements.

XI. KEY RESOURCES

NVE will consult with a list of experts to address avian protection issues including company specialists, consultants and state and federal resource agencies. The following resources include:

- United States Fish and Wildlife Service
- Nevada Division of Wildlife
- NVE's District Managers
- Edison Electric Institute
- Avian Power Line Interaction Committee

APPENDIX-A

NV Energy
Avian Mortality Report Form

AVIAN MORTALITY REPORT

Date of Report: Time of Call:

Source of Information (name/dept):

Phone #: Date/time carcass was discovered:

Species (if known):

Nest? Taken/salvaged? Eggs? (Qty.) Taken/salvaged?

Is the bird banded/marked? If yes, provide band #:

Sex, if known:

Suspected Cause of Death:

Weather Conditions:

Facility or line name, and voltage:

Pole or structure number:

Describe location by reference to nearest road/landmarks, etc. (draw map)

GPS (lat/long or UTM):

Carcass collected by: Date/Time:

USFWS rep. Notified : Date/Time:

Carcass delivered/disposed to:

APPENDIX-B

NV Energy
Depredation and Scientific Collection Permits

JIM GIBBONS
Governor

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

KENNETH E. MAYER
Director

DOUG HUNT
Deputy Director

PERMITTEE:

Paul Aguirre
NV Energy
PO Box 98910, MS 30
Las Vegas, NV 89151-00001

Permit No.: S 31390
Date Issued: 1/15/2009
Date Effective: 1/15/2009
Period of Sampling: See Condition #4
Expiration Date: 12/31/10
Annual Report Due: 1/30/10 &1/30/11
Fed. Permit No.: MB025355-0*(exp. 3/31/09)*

SCIENTIFIC COLLECTION PERMIT NO. S31390

In compliance with the conditions listed below and pursuant to provisions of NRS 503.597 & 503.650, the permittee, Sierra Pacific Resources and its subsidiaries, Nevada Power Co and Sierra Pacific Power, each permi year during the designated sampling period, is authorized to:

a. Remove inactive nests from electrical transmission & distribution systems to prevent electrocution of birds and associated power outages (excludes nests of eagles & endangered species);
b. Remove and/or relocate active nests that could be affected by construction, reconstruction, modification, operations or maintenance activities of NPC facilities with prior written amendment of the federal permit – on a case-by-case basis;
c. Pick-up sick or injured birds and other non-listed wildlife species and transport to rehabilitation facilities permitted by the Service (*required for migratory birds*) and NDOW; and
d. Salvage dead birds and other non-listed wildlife species. Eagles and endangered species disposition will occur according to direction received for the U.S. Fish & Wildlife Service Special Agent and/or NDOW Biologist. Other salvaged species must be delivered to Don Baepler, Barrick Museum, UNLV.

CONDITIONS:

1. A copy of this permit and any permits required by the U.S. Fish and Wildlife Service must be in the possession of the permittee and any authorized collectors while conducting collection/salvage activities. The permittee must comply with all terms, conditions and restrictions of the federal permit. This permit is invalid for the taking, collection, or salvage of migratory birds, threatened or endangered species, absent any permit required by the Service for that activity.

2. Authorized Sampling Area: Statewide

   This permit does NOT authorize trespass and/or collecting activities on state or federal wildlife refuges or reserves, or other public and private property without the permission from landowner or custodian.

3. Number Authorized: As encountered.

4. Period of Field Collection: January 15, 2009 through December 31, 2010.

5. Destination of Collection: Salvaged bird and non-listed wildlife species, Barrick Museum, UNLV.

6. Annual Report: A record will be created for each specimen (or group of specimens of a single species) taken at each site-locality. "Taken" means salvaged; captured & released; collected; banded; trapped & killed; seined; netted; snared; sacrificed; reduced to possession; etc. The following information will be recorded for each specimen taken: By date, the number of specimens of each species taken; species name; the habitat type where each specimen was taken; numeric breakdown of sex whenever possible; and a description of the location where each specimen was taken, by the following method: (*Don't use common geographic names*)
– UTM Coordinates, NAD 83, Zone 11, rounded to the nearest meter; *OR*
– Coords. of longitude & latitude, WGS 84, *in decimal-degrees to 4 places (117.2456°)*; *OR*
– Township, Range and 1/4 Section;
The records must be submitted to the Nevada Department of Wildlife, License Office – Scientific Collection Report, 4600 Kietzke Ln D-135, Reno, NV 89502, by 1/30/10 for 2009 "take" activities; and 1/30/11 for 2010 "take" activities. Digital reports in Excel spreadsheet (*preferred*) or Quattro Pro are accepted (please follow column sequence as outlined in the Department report form, 22.85-5.)

7. A copy of all pertinent research or technical papers must be submitted to the Department.

8. All specimens authorized under the authority of this permit, including offspring, are property of the State Nevada and as such, they shall not be sold, bartered, traded, converted to personal use or otherwise disposed of without written approval of the Department, except as provided in Condition #5. This condition remains in effect indefinitely.

9. No fee may be charged to the public for the privilege to view wildlife which is held under the authority of this permit.

10. Permit Cancellation: A violation of a condition or stipulation is cause for the cancellation of the permit.

11. Additional Authorized Collectors: Employees of NV Energy at the direction of the permittee.

Julie Meadows
Program Officer I

jgm
enclosure

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-200
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

1. PERMITTEE

NEVADA POWER COMPANY
ATTN PAUL AGUIRRE
PO BOX 98910 MAIL STA 30
LAS VEGAS, NV 89151
U.S.A.

2. AUTHORITY-STATUTES
16 USC 703-712

REGULATIONS
50 CFR Part 13
50 CFR 21.41

3. NUMBER
MB069492-0

4. RENEWABLE
☒ YES
☐ NO

5. MAY COPY
☒ YES
☐ NO

6. EFFECTIVE
06/01/2009

7. EXPIRES
05/31/2010

8. NAME AND TITLE OF PRINCIPAL OFFICER (If not a business)
ANTHONY GIANNANTONIO
ENVIRONMENTAL SCIENTIST

9. TYPE OF PERMIT
DEPREDATION

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
RECORDS FOR THIS PERMIT MUST BE MAINTAINED AT
Nevada Power Company
Pearson Bldg, 6226 W Sahara Ave; Las Vegas, NV

11. CONDITIONS AND AUTHORIZATIONS

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

Species authorized:
COMMON RAVEN - Nest Authorized: 50

D. Authorized to remove/destroy up to 50 active Raven nests when built on powerline structures and substations and are an **imminent** fire hazard. The nests are built in locations/heights that are not safe to reach and relocate. Whenever possible, chicks should be rescued and transferred to a licensed wildlife rehabilitator.

E. Must comply with all standard depredation permit conditions attached. Report of nests taken is due within ten days of expiration of permit; report form will be provided by ssuing permit office.

F. Must comply with all attached standard depredation permit conditions (attached).

Authorized: This permit cancels permit previously issued to Sierra Pacific Power Company. Locations authorized under permit are Sierra Pacific Resources and its subsidiaries, Nevada Power Company and Sierra Pacific Power Company facilities, and employees under direction of Principal Officer. One report shall be filed yearly summarizing activities (numbers killed or transferred to rehab facilities) conducted under this permit.

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12. REPORTING REQUIREMENTS
ANNUAL REPORT DUE: 6/10

ISSUED BY	TITLE	DATE
Pamela E. Tate-Hall	PERMIT ADMINISTRATOR - FWS REGION 1	06/16/2009

Migratory Bird Permit Office
911 N.E. 11th Avenue
Portland, OR 97232-4181
503-872-2715 Fax: 503-231-2019
tami_tatehall@fws.gov

Standard Conditions
Migratory Bird Depredation Permits
50 CFR 21.41

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR part 21.41 are conditions of your permit. The standard conditions below are additional provisions and conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. If you have questions regarding these conditions, refer to the regulations or, if necessary, contact your migratory bird permit issuing office. For copies of the regulations and forms, or to obtain contact information for your issuing office, visit: www.fws.gov/permits/mbpermits/birdbasics.html.

1. To minimize the lethal take of migratory birds, you are required to continually apply non-lethal methods of harassment in conjunction with lethal control.

2. Shotguns used to take migratory birds can be no larger than 10-gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j).

3. You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice migratory birds into gun range.

4. You are not authorized to take, capture, harass, or disturb bald eagles or golden eagles, or species listed as threatened or endangered under the Endangered Species Act found in 50 CFR 17, without additional authorization.

   For a list of threatened and endangered species in your state, visit the U.S. Fish and Wildlife Service's Threatened and Endangered Species System (TESS) at: www.fws.gov/endangered.

5. If you encounter a migratory bird with a Federal band issued by the U.S. Geological Survey Bird Banding Laboratory, Laurel, MD, report the band number to 1-800-327-BAND or www.reportband.gov.

6. This permit does not authorize take or release of any migratory birds, nests, or eggs on Federal lands without additional prior written authorization from the applicable Federal agency.

7. This permit does not authorize take or release of any migratory birds, nests, or eggs on State lands or other public or private property without prior written permission or permits from the landowner or custodian.

8. Unless otherwise specified on the face of the permit, migratory birds, nests, or eggs taken under this permit must be:
   (a) turned over to the U.S. Department of Agriculture for official purposes,
   (b) donated to a public educational or scientific institution as defined by 50 CFR 10, or
   (c) completely destroyed by burial or incineration.

9. Subpermittees must be at least 18 years of age. As the permittee, you are legally responsible for ensuring that your subpermittees are adequately trained and adhere to the terms of your permit. You are responsible for maintaining current records of who you have designated as a subpermittee, including copies of letters you have provided.

10. You and any subpermittees must carry a legible copy of this permit and display it upon request whenever you are exercising its authority.

11. You must maintain records as required in 50 CFR 13.46 and 50 CFR 21.41. All records relating to the permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.

12. Acceptance of this permit authorizes the U.S. Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.

13. You may not conduct the activities authorized by this permit if doing so would violate the laws of the applicable State, county, municipal or tribal government or any other applicable law.

(DPRD - 4/7/2008)

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

3-201
(1/97)

FEDERAL FISH AND WILDLIFE PERMIT

2. AUTHORITY-STATUTES
16 USC 703-712

REGULATIONS *(Attached)*
50 CFR Part 13
50 CFR 21.27

1. PERMITTEE

NEVADA POWER COMPANY
ATTN A. GIANNANTONIO
PO BOX 98910 MAIL STA 30
LAS VEGAS, NV 89151
U.S.A.

3. NUMBER
MB025355-0

4. RENEWABLE	5. MAY COPY
[X] YES	[X] YES
[ ] NO	[ ] NO

6. EFFECTIVE	7. EXPIRES
04/01/2006	03/31/2009

8. NAME AND TITLE OF PRINCIPAL OFFICER *(If #1 is a business)*
ANTHONY GIANNANTONIO
SR ENVIRONMENTAL SCIENTIST

9. TYPE OF PERMIT
SPECIAL PURPOSE

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED
RECORDS MAINTAINED AT NEVADA POWER COMPANY
PEARSON BUILDING - 6226 W SAHARA AVE; LAS VEGAS
CLARK COUNTY, NEVADA

11. CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

D. Authorized emergency removal of rests from electric transmission & distribution systems to prevent electrocution of birds & associated power outages. Notification to this office required within 72 hours of such activity (phone 503-872-2715; fax 503-231-2019). This authority excludes all endangered species and bald or golden eagle nests.

E. Removal and/or relocation of active nests (eggs or young present) that could be affected by construction, reconstruction, modification or maintenance of Sierra Pacific Resources and its subsidiaries, Nevada Power Company and Sierra Pacific Power Company facilities, only with prior written amendment to this permit on a case-by-case basis.

F. Sick or injured migratory birds may be picked up and transported to wildlife rehabilitation facility holding state and federal permits. Dead birds may be picked up and deposed of as directed by USFWS Law Enforcement office in Las Vegas (702-388-6380) or Nevada Department of Fish and Game. Eagles and endangered species must be turned over to Las Vegas USFWS office.

H. Maintain records in accordance with 50 CFR 13.46 and 50 CFR 21.27.

I. Report of activities due each January 31 for previous calendar year. Required information includes number of active nests removed/relocated, disposition and dates; number and species of birds transported to rehab facilities; and number/species of dead birds picked up and what final disposition was. Report forms will be provided yearly.

[X] ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

12. REPORTING REQUIREMENTS
ANNUAL REPORT DUE: 1/31

ISSUED BY
Pamela E. Tate-Hall

TITLE
PERMIT ADMINISTRATOR - FWS REGION 1

DATE
06/22/2006

Migratory Bird Permit Office
911 N.E. 11th Avenue
Portland, Oregon 97232-4181
Phone 503-872-2715 Fax 503-231-2019
tami_tatehall@fws.gov

Standard Conditions
Migratory Bird Depredation Permits
50 CFR 21.41

Standard conditions for depredation permits are below. These conditions are in addition to the conditions listed on the face of your permit. All of the governing regulations at 50 CFR Part 13 are also conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. If you have questions regarding the conditions of your permit, refer to the regulations or contact the migratory bird permit office that issued your permit. Regulations and contact information are available on the Internet at: http://www.permits.fws.gov/mbpermits/birdbasics.html

1. You, and any subpermittees, must carry a legible copy of this permit, and display it upon request whenever you are exercising its authority.

2. You may not exercise the authorization granted by this permit contrary to the laws of the applicable state, county, municipal, or tribal government, or any other applicable law.

3. You are not authorized to take, capture, or harass bald or golden eagles or federally listed threatened or endangered species.

4. You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice birds into gun range.

5. Shotguns used to take birds can be no larger than 10 gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j).

6. To minimize the lethal take of birds, you are required to continually apply non-lethal methods of harassment alternately with lethal control.

7. You are not authorized to take any birds, nests, or eggs, or to release birds on federal or state lands or other public or private property without additional written authorization, permission, or permits from the applicable federal or state agency, landowner, or custodian.

8. Unless otherwise specified on the face of the permit, birds, nests, or eggs taken under this permit must be (1) turned over to the U.S. Department of Agriculture for official purposes, (2) donated to a public educational or scientific institution as defined by 50 CFR 10, or (3) completely destroyed by burial or incineration.

9. You must maintain records of the activities conducted under your permit for a period of 5 years from the date of expiration of the permit (50 CFR 13.46), including the following information: species (common name); date taken; location where taken; number of birds killed or relocated; number of eggs, or nests with eggs, taken or relocated; name of person taking birds; and the final disposition of the birds or eggs.

10. You must keep all records relating to the permitted activities at the location(s) identified in writing by you to the issuing office.

11. Acceptance of this permit authorizes the Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.

(9/12/2005)

Appendix-D

NV Energy
Environmental Services Contact Information

ENIRONMENTAL SERVICES:

Starla Lacy
Executive of Environmental Services
slacy@nvenergy.com
(702) 402-5669

Lee Simpkins
Team Leader, Environmental Services
lsimpkins@nvenergy.com
(775) 834-3528

Nevada Power Company Environmental Scientist:

Primary Contact:

Paul B. Aguirre — Office: (702) 402-2647
paguirre@nvenergy.com — Cell: (702) 236-8670

Sierra Pacific Power Company Environmental Scientist:

Primary Contact:

Jason Benson — Office: (775) 834-3150
jbenson@nvenergy.com — Cell: (775) 223-1174

APPENDIX C
BLM MIGRATORY BIRDS OF CONCERN

The BLM Migratory Birds of Concern can be found on the following pages.

This page intentionally left blank.

BLM Migratory Birds of Concern[a] - Carson City District Office				
Species	*USFWS Birds of Conervation Concern*		USFWS Game Birds Below Desired Condition	BLM Sensitive Species
	BCR 9	BCR 15		NV BLM
American black duck			X	
American wigeon			X	
American woodcock			X	
Bald eagle	X	X		
Band-tailed pigeon			X	
Black-chinned sparrow	X			
Black rosy-finch	X			X
Black swift	X	X		
Black tern				X
Bobolink				X
Brant (Atlantic)			X	
Brant (Black)			X	
Brant (Gray-bellied)			X	
Brewer's sparrow	X			
Burrowing owl				X
Canada goose (Cackling)			X	
Canada goose (Dusky)			X	
Calliope hummingbird	X	X		
Canvasback			X	
Cassin's finch		X		
Common eider			X	
Crissal thrasher				X
Eared grebe	X (nb)			
Emperor goose			X	
Ferruginous hawk	X			X
Flammulated owl	X	X		X
Golden eagle	X			X
Gray vireo				X
Greater scaup			X	
Green-tailed towhee	X			
Harlequin duck			X	
Juniper titmouse				X
King rail			X	
Least bittern				X
LeConte's thrasher				X
Lesser scaup			X	
Lewis's woodpecker	X	X		X
Loggerhead shrike	X			X
Long-billed curlew	X			X
Long-eared owl				X
Lucy's warbler				X
Mallard			X	
Marbled godwit	X (nb)			
Mottled duck			X	
Mourning dove			X	

Species	*USFWS Birds of Conervation Concern*		USFWS Game Birds Below Desired Condition	BLM Sensitive Species
	BCR 9	BCR 15		NV BLM
Northern goshawk				X
Northern pintail			X	
Olive-sided flycatcher		X		
Peregrine falcon	X	X		X
Phainopepla				X
Pinyon jay	X			X
Prairie falcon				X
Redhead			X	
Red-naped sapsucker				X
Ring-necked duck			X	
Sage sparrow	X			
Sage thrasher	X			
Sandhill crane				X
Sandhill crane (Greater)				
Short-eared owl				X
Snow goose			X	
Snowy plover	X			X
Swainson's hawk				X
Tricolored blackbird	X			X
Trumpeter swan			X	
Vesper sparrow				X
Virginia's warbler	X			
White-fronted goose (Greater)			X	
White-fronted goose (Tule)			X	
White-headed woodpecker	X			
Williamson's sapsucker	X	X		
Willow flycatcher	X	X		
Wood duck			X	
Yellow-billed cuckoo (western U.S. DPS)[f]	X			X[g]
Yellow-breasted chat				X
Yellow rail	X			

[a] Migratory Birds of Concern are a subset of the species protected by the MBTA.

[b] There are no federally listed species on the Carson City District Office.

[c] USFWS. 2008. Birds of Conservation Concern 2008 (*BCC 2008*). BCRs 9 and 15 apply to the Carson City District Office. (nb) = non-breeding in the BCR.

[d] FWS Game Birds Below Desired Condition.

[e] The CA BLM list applies to the Carson City District Office that occurs in CA (Alpine, Lassen,

[f] ESA candidate.

[g] The cuckoo is not on the BLM NV sensitive species list but should be because it is on the FWS website for several counties in NV and the BLM sensitive species list is to include candidates according to BLM Manual 6840.

NEWLANDS 832. — Tri-Party

RECEIVED
USBR Carson City
OCT 21 1959

Date	Initial	To
	L	700
	m	135
	COM	200
10/21	ETC	720
10/2	Raul	230

Susp. Date

Date Ans'd

4-400

ON TOP

October 15, 1959

Mr. Ernest R. Cushing
Real Estate Division
District Public Works Office
Twelfth Naval District
San Bruno, California

Dear Mr. Cushing:

The Secretary of the Interior has authorized execution of the Tri-Party Agreement pertaining to Newlands Project lands occupied by Navy, and I have signed the agreement on behalf of the Bureau of Reclamation. The agreement was fully executed on October 15, 1959, and that date is designated as the effective date of the agreement.

Enclosed are one signed copy and four conformed copies of the agreement in accordance with your request.

We appreciate the cooperation of the Navy during the period of negotiation and feel that the agreement very adequately protects the interests of all parties concerned.

You are advised that the Newlands Project has as of this date been transferred to the jurisdiction of the Bureau of Reclamation Region 2 office with headquarters at Sacramento, California. We suggest, therefore, that future communications pertaining to the agreement or operations thereunder be directed to the Regional Director of the Sacramento office.

Very truly yours,

E. O. Larson

Regional Director

NOTICE: If you detach enclosures please insert Code No. ____

Copy to: Regional Director, Region 2, Sacramento, California
w/original copy and 2 conformed copies
Project Manager, Carson City, Nevada w/c encl.
Commissioner w/c encl.
Field Solicitor, Salt Lake City, Utah w/c encl.

RESOLUTION OF THE BOARD OF DIRECTORS OF THE TRUCKEE-CARSON

IRRIGATION DISTRICT

BE IT AND IT IS HEREBY RESOLVED by the Board of Directors of the Truckee-Carson Irrigation District that the President and the Secretary of the District be and they hereby are authorized and directed to execute, seal and deliver on behalf of the District an agreement among the United States, acting through the Bureau of Reclamation, Department of the Interior, the Bureau of Yards and Docks, Department of Navy, and the District relating to the payment of construction and operation and maintenance charges of the Newlands Project for lands acquired for the Naval Auxiliary Air Station, Fallon, Nevada, and other matters, on terms and conditions contained in the form of agreement considered at this meeting.

C E R T I F I C A T E

I, John R. Hannifan, Secretary of the Truckee-Carson Irrigation District, do hereby certify that the foregoing is a full, true and correct copy of a Resolution of the Board of Directors of the Truckee-Carson Irrigation District passed at a regular meeting of the said directors held on July 7, 1959, at which meeting Seven of the directors of said District were present and Six of said directors voted in favor of said Resolution.

I further certify that the number of directors of the Truckee-Carson Irrigation District is Seven.

IN WITNESS WHEREOF I have hereunto set my hand and the official seal of the Truckee-Carson Irrigation District of Fallon, Nevada, this 7th day of July, 1959.

/s/ John R. Hannifan
Secretary

(SEAL)

Contract No. 14-06-400-1024

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION

NEWLANDS PROJECT

THIS AGREEMENT, made this 15th day of October, 1959, in pursuance of the Act of June 17, 1902 (32 Stat.388) and acts amendatory thereof or supplementary thereto among THE UNITED STATES OF AMERICA, acting through the Bureau of Reclamation, Department of the Interior, hereinafter referred to as Reclamation, the BUREAU OF YARDS AND DOCKS, Department of Navy, hereinafter referred to as Navy, represented by the officers executing this agreement, and the TRUCKEE-CARSON IRRIGATION DISTRICT of Fallon, Nevada, hereinafter referred to as District,

WITNESSETH:

WHEREAS, Reclamation constructed the Newlands Project, Nevada, hereinafter referred to as the Project, pursuant to the Federal Reclamation Laws, and entered into certain contracts dated December 18, 1926, and June 14, 1944, with the District providing, among other things, for repayment of Project costs and assumption of operation and maintenance of Project works by the District, and

WHEREAS, the Navy has constructed the Naval Auxiliary Air Station, Fallon, Nevada, hereinafter referred to as the Air Station, and intends to expand such Air Station and has acquired, and will acquire, certain lands within the District served by the Project pursuant to water right contracts and which lands prior to acquisition by

the Navy were assessable by the District to pay construction costs and operation and maintenance charges of the Project, and

WHEREAS, a part of the lands acquired by the Navy have been enclosed within a fence and maintained as a Security Area wherein free egress and ingress is curtailed; and

WHEREAS, said Security Area has been and must remain an integral part of the Air Station; and

WHEREAS, the Navy has acquired certain lands containing areas which have been classified to be of potential agricultural quality;

WHEREAS, the Navy desires to continue the use of project water on areas acquired by it and to obviate adversely affecting the project.

NOW, THEREFORE, in consideration of the mutual and dependent stipulations and covenants herein contained, it is agreed by and between the parties hereto as follows:

1. Navy will pay to the District by entry of appropriate stipulation for judgment in condemnation proceedings indentified as civil actions 1030, 1323, and 1401 the sums as indicated upon Exhibit "A" attached hereto, representing unpaid construction costs and moratorium charges assessed against acreage acquired by Navy in the 1952, 1957, and 1958 land acquisitions for the Air Station. Navy will likewise pay to the District all unpaid construction charges including those deferred by moratorim acts assessed against lands within the Project which may be acquired in fee by Navy for future expansion of the above Air Station.

2. It is agreed that construction charges suspended against lands acquired or to be acquired by Navy shall remain suspended until such lands are reclassified by the Secretary of the Interior in accordance with Sec. 43 of the Act of May 25, 1926 (44 Stat. 636), as amended by the Act of April 23, 1930 (46 Stat. 249). Navy agrees to pay construction

charges on any lands acquired by Navy declared by the Secretary of the Interior to be possessed of sufficient productive power properly to be placed in a paying class. Should any of the suspended lands acquired by Navy be found by the Secretary of Interior to be permanently unproductive they shall thereupon, upon request of Navy, be excluded from the payment of construction and operation and maintenance charges.

3. The Navy shall collect from its lessees and forward to the District annually in advance of the irrigation season the actual operation and maintenance charges of the irrigation and drainage system allocable to lands held or acquired by the Navy. In addition thereto, the Navy agrees to pay all operation and maintenance costs as accrued, allocated to lands held or acquired by the Navy and not paid by lessees, upon receipt of quarterly statements issued by the District on March 31, June 30, September 30, and December 31 of each calendar year during the existence of this agreement. Upon such payments the District will continue to make available for use by the Navy of its lessees Project water to the extent provided under water right contracts. District may withhold delivery of water for failure to pay O&M charges and costs as herein provided, and nothing elsewhere contained in this agreement shall be construed to the contrary.

4. The Navy agrees to the beneficial use of water on those lands under water right acquired by it except that, if and when certain water right lands are put to such uses as to preclude beneficial use of irrigation water thereon, the Navy shall either request cancellation of water rights or request the transfer of such water rights to other lands owned by Navy determined by the Secretary of the Interior to be irrigable and said rights to the delivery of water shall be transferred thereto. Navy agrees, upon transfer of said water rights, to take expeditious steps, through outlease or otherwise, to level said new lands for irrigation and plant crops thereon so as to maintain said transferred water right. It is mutually

agreed that lacking a showing of beneficial use of water on those Navy lands eligible to receive water under this agreement, and where other irrigable lands owned by the Navy are not available, water right contracts may be cancelled pursuant to applicable State and Federal regulations.

5. In any transfer or sale of lands acquired or to be acquired by Navy for the Air Station, said lands shall be disposed of by the Navy with the water rights appurtenant thereto.

6. The Navy will be responsible for the operation and maintenance of those project works within the Air Station shown on Exhibit "B" attached hereto and the District will be responsible for the operation and maintenance of those other project works within the Air Station so designated on said Exhibit "B." The responsibility for operation and maintenance of works by the Navy and the District may be modified by mutual agreement in writing between the Navy and the District.

7. The parties hereto agree that no modification of project works will be made within the Air Station without advance approval of the plans by the other parties hereto. Any expense for such modification or additional operation and maintenance expense thereof shall be assumed by the Navy or the District, whichever proposed said work, provided, however, that to the extent existence of facilities of the Navy require increased expenditures by the District those expenditures shall be assumed by Navy.

8. The Navy agrees that the District maintenance crews shall be granted ingress and egress to the rights-of-way of the project works as shown on Exhibit "B" with minimum restrictions subject to such clearance as in the opinion of the Commanding Officer, Naval Auxiliary Air Station, Fallon, Nevada, may be required for the security of the Air Station.

9. District and Reclamation agree that they will build no structure on the lands subject to restricted development within the project as shown on Exhibit "C" which is more than 40 feet above runway elevations at the Air Station, and they will limit the use of such lands to agricultural development. District and Reclamation further agree that such restrictions shall likewise be imposed upon the lessee of any such lands. The Navy shall have ingress and egress to the lands shown on Exhibit "C" and is authorized to clear trees or other obstructions extending 40 feet above runway elevations, to install and maintain such obstruction lights as are considered by the Navy to be necessary, and to perform other necessary actions connected with operation of the Air Station.

10. The District agrees that all sums received from the Navy in payment of project construction costs will within thirty (30) days of receipt of such sums be transmitted to Reclamation for proper application on project construction costs in the amounts shown by the books and accounts of the United States to be payable therefor. Reclamation agrees that such sums so received from the District will be used for giving appropriate credit on annual construction cost installments due from the District to Reclamation under the contract of December 18, 1926, as amended by the contract of June 14, 1944.

11. The contracts of December 18, 1926, and June 14, 1944, between Reclamation and the District shall remain in full force and effect, except as modified by the provisions of this agreement.

12. The District and Reclamation agree to revocation of withdrawal of the following lands withdrawn for reclamation purposes as shown on Exhibit "C" to provide for Navy withdrawal and use for construction and protection of improvements: $NW\frac{1}{4}SW\frac{1}{4}$, $SE\frac{1}{4}SW\frac{1}{4}$, Sec. 3; Lot 6, Sec. 4; $SE\frac{1}{4}$ Sec. 9; $W\frac{1}{2}NE\frac{1}{4}$, $NE\frac{1}{4}NW\frac{1}{4}$, $E\frac{1}{2}SW\frac{1}{4}$, $SE\frac{1}{4}$ Sec. 10; $N\frac{1}{2}NE\frac{1}{4}$, $SW\frac{1}{4}NE\frac{1}{4}$, $NW\frac{1}{4}SE\frac{1}{4}$, $NW\frac{1}{4}$, $N\frac{1}{2}SW\frac{1}{4}$, $SW\frac{1}{4}SW\frac{1}{4}$ Sec. 24, T. 18 N., R. 29 E., MDB&M and $NE\frac{1}{4}$ Sec. 18, T. 18 N., R. 30 E., MDB&M.

13. The District warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the District for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration the full amount of such commission, percentage, brokerage, or contingent fee.

14. Navy may, by written notice to District, terminate all rights of District under this agreement if it is found, after notice and hearing by the Secretary of the Navy, or his designee, that gratuities (in the form of entertainment, gifts or otherwise) were offered or given by District or any agent or representative of District to any officer or employee of Navy with a view towards securing an agreement or securing

favorable treatment with respect to the awarding or amending or the making of any determinations with respect to the performing of such agreement, provided, that the existence of the facts upon which the Secretary makes such findings shall be in issue and may be reviewed in any competent court.

15. In the event this agreement is terminated, as provided in Article 14 hereof, Navy shall be entitled (i) to pursue the same remedies against District as it could pursue in the event of a breach of the agreement by District and (ii) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the Secretary or his duly authorized representative) which shall be not less than three nor more than ten times the cost incurred by District in providing any such gratuities to any such officer or employee.

16. The rights and remedies of Navy provided in this clause shall not be exclusive and are in addition to any other rights and remedies provided by law or under this agreement.

17. The expenditure of any money or the performance of any work by the Navy or Reclamation herein provided for, which may require appropriations of money by Congress or the allotment of funds, shall be contingent upon such appropriations or allotments being made. The failure of Congress to so appropriate funds or the failure of an allotment of funds shall not relieve the District from any obligations under this agreement nor give the District the right to terminate this agreement or to any of its executory features. No liability shall accrue against the Navy or Reclamation in case of such funds not being appropriated or allotted.

18. No Member of or Delegate to Congress or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise herefrom, but this restriction shall not be construed to extend to this contract if made with a corporation or company for its general benefit.

IN WITNESS WHEREOF, the parties hereto have caused this agreement to be signed by their proper officers thereunto duly authorized, the day and year first above written.

THE UNITED STATES OF AMERICA
BUREAU OF RECLAMATION

By /s/ E. O. Larson
Regional Director

THE UNITED STATES OF AMERICA
BUREAU OF YARDS AND DOCKS

By /s/ W. F. Weaver
W. F. Weaver, Capt., CEC, USN
By direction of Chief of the Bureau
of Yards and Docks acting under the
direction of the Secretary of the Navy

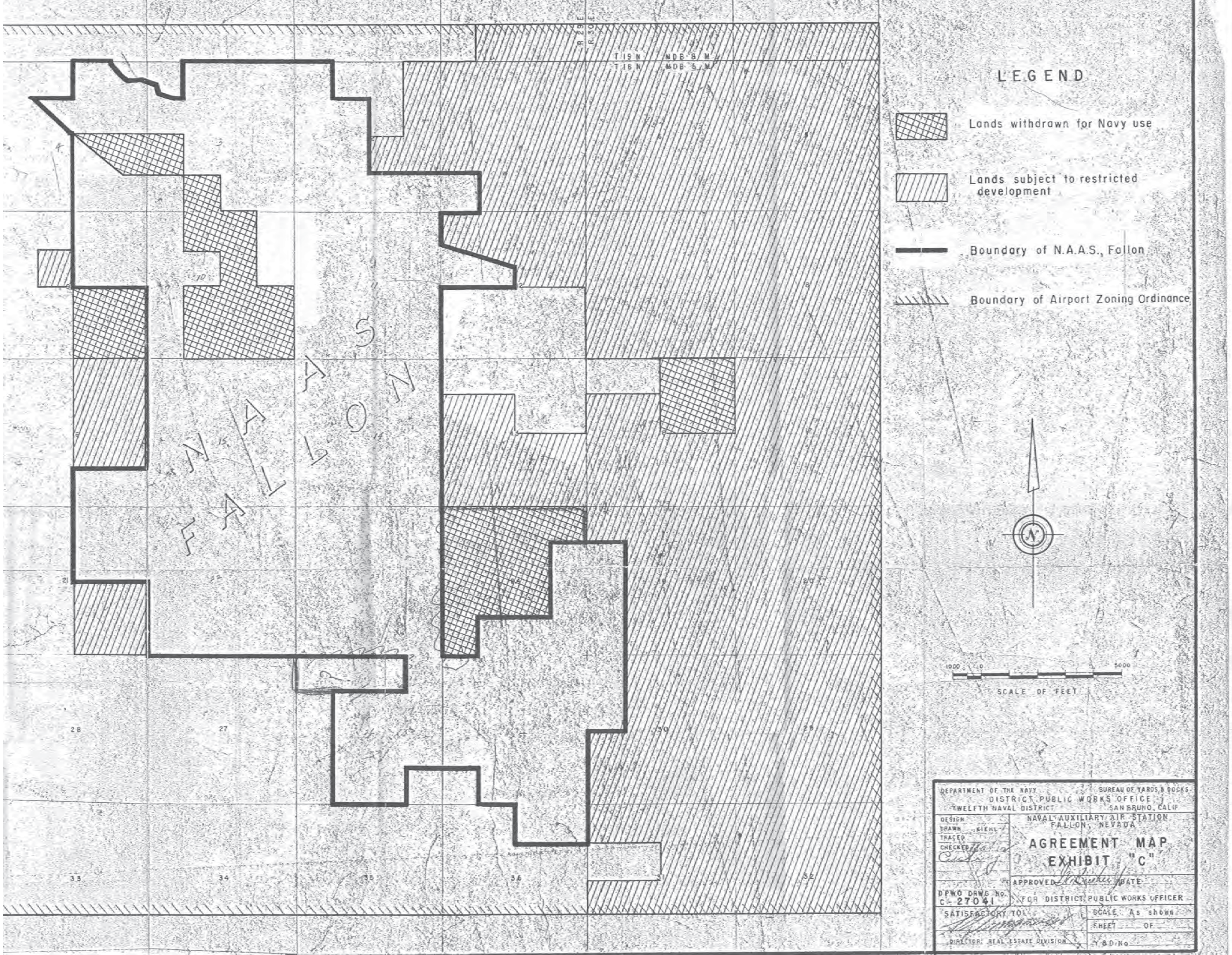
TRUCKEE-CARSON IRRIGATION DISTRICT

(SEAL)

ATTEST:

By /s/ Edward A. Dyer
President

/s/ John R. Hannifan
Secretary


LEGEND
Lands withdrawn for Navy use
Lands subject to restricted development
Boundary of N.A.A.S., Fallon
Boundary of Airport Zoning Ordinance
NAAS FALLON
R 29 E
R 30 E
T 19 N MDB & M
T 18 N MDB & M
SCALE OF FEET
DEPARTMENT OF THE NAVY
BUREAU OF YARDS & DOCKS
DISTRICT PUBLIC WORKS OFFICE
TWELFTH NAVAL DISTRICT
SAN BRUNO, CALIF
DESIGN
DRAWN KIEHL
TRACED
CHECKED
NAVAL AUXILIARY AIR STATION
FALLON, NEVADA
AGREEMENT MAP
EXHIBIT "C"
APPROVED
DATE
FOR DISTRICT PUBLIC WORKS OFFICER
DPWO DRWG NO.
C-27041
SATISFACTORY TO:
DIRECTOR, REAL ESTATE DIVISION
SCALE: As shown
SHEET OF
Y&D No.

PROGRAMMATIC AGREEMENT
AMONG
THE BUREAU OF LAND MANAGEMENT, BUREAU OF RECLAMATION,
AND THE NEVADA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE SALT WELLS ENERGY PROJECTS

WHEREAS, the Bureau of Land Management Stillwater Field Office (BLM) has determined that the Salt Wells Energy Projects (SWEP) proposed by Sierra Pacific Power Company (SPPC), Ormat Technologies, Inc. (ORMAT), and Vulcan Power Company (VULCAN), referred to as Proponent(s), in Churchill County, Nevada, may have an effect upon properties eligible for inclusion in the National Register of Historic Places (NRHP), and have consulted with the Nevada State Historic Preservation Officer (SHPO) pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA); and

WHEREAS, BLM may issue permits, licenses, and right-of-way grants for geothermal operations proposed by ORMAT and VULCAN (Authorizations); and

WHEREAS, BLM and RECLAMATION may issue a right-of-way grant for SPPC proposed transmission line and facilities which crosses public lands (Authorizations); and

WHEREAS, the BLM, SHPO, and RECLAMATION shall be considered signatories; SPPC, ORMAT, and VULCAN shall be considered consulting parties to this Programmatic Agreement (PA), pursuant to 36 CFR 800.6(c) and 36 CFR 800.14(b), and these parties must concur on the execution this PA; and

WHEREAS, the Fallon Paiute-Shoshone Tribe (Tribe) that may have an interest in the area have been contacted and been offered an opportunity to participate in the Section 106 process; and

WHEREAS, the BLM has invited the Advisory Council on Historic Preservation (ACHP) to participate in consultation, and they elected on not to participate in the PA;

WHEREAS, the BLM has a Nationwide Programmatic Agreement and a State Protocol Agreement between BLM and SHPO dated October 26, 2009 (Protocol) that govern all other undertakings and historic properties that may occur within the Area of Potential Effect (APE) and those agreements are hereby incorporated by reference into this PA; and

WHEREAS, the definitions given in the Protocol between the Nevada Bureau of Land Management State Director and the SHPO apply throughout this PA, unless specifically modified below; and

WHEREAS, this PA covers all aspects of the planning, construction, and installation of the SWEP, including but not limited to, geothermal plants (binary air/water-cooled and/or flash), production, water, monitoring and injection wells, pipelines, substation(s), switching station(s), power lines, staging areas, access roads, other constructed facilities as identified; and

NOW, THEREFORE, the signators BLM, RECLAMATION, and SHPO, and the consulting parties SPPC, ORMAT, and VULCAN, agree that construction of the SWEP shall be administered in accordance with the following stipulations to ensure that historic properties will be treated to avoid or mitigate effects to the extent practicable, regardless of surface ownership and to satisfy BLM Section 106 responsibilities for all aspects of the undertaking.

I. ROLES AND RESPONSIBILITIES

A. The signatories agree that BLM will be the Lead Federal Agency for implementing this PA in accordance with the Protocol. The Protocol for implementing Section 106 of the NHPA is incorporated by reference and the document can be found here: http://www.blm.gov/style/medialib/blm/nv/cultural/permits.Par.99806.File.dat/state_protocol_agreement_oct2009.pdf

B. The BLM is responsible for administering this PA. This includes but is not limited to: ensuring that all signatories carry out their responsibilities; overseeing all cultural resource work, including reports, determinations of eligibility and effect, and treatment/data recovery plans; and assembling all submissions to the SHPO, other signatories, and interested parties during the implementation of this PA.

C. Proponent(s) signatory(s), or their designees, will be the responsible point of contact for the SWEP and provide the BLM with any and all information needed to implement this PA. The Stillwater Field Manager is the BLM Authorized Officer for the SWEP. The Authorized Officer, or their designee, is the SWEP point of contact for the BLM.

D. Proponent(s) will be responsible for costs of rehabilitation or mitigation, and may be subject to criminal penalties, should damage to cultural resources inside or outside the APE occur during the period of construction, operation or reclamation due to the unauthorized, inadvertent or negligent actions of the Proponents, their employees, contractors or any other project personnel.

II. AREA OF POTENTIAL EFFECT

The APE shall be defined to include all potential direct effects, including visual effects, and indirect effects to cultural resources from any Development activities associated with the undertaking. The APE is described in Appendix A and illustrated in Figure 1.

III. STIPULATIONS

The BLM, in cooperation with the other signatories, shall ensure that the following stipulations are carried out:

A. Identification of Historic Properties

1. The BLM shall involve interested parties and the Tribe identified through the Section 106 process, as appropriate, in all activities carried out under this PA associated with the undertaking.

2. The BLM shall have the consulting archaeologists conduct records searches of General Land Office (GLO) plat maps, the BLM's Master Title Plats/Historic Index, the GLO Land Records website (http://www.glorecords.BLM SWFO.gov/), the Nevada State Lands Patent Database Query (http://www.lands.nv.gov/patents/patents.htm), the Nevada Cultural Resources Information System (NVCRIS), the National and State Register of Historic Places, National Trail System, historic maps, BLM and SHPO cultural resources records, and pertinent historic records/publications and maps to identify historic resources within the APE which could be directly and indirectly affected by the project.

3. Prior to Authorization, or as a Condition of Approval/Special Stipulation to the Authorization, BLM shall ensure that the Proponent(s) fund and complete the appropriate cultural resource Class I and Class III inventories identifying all historic properties, including reports, ethnographic studies/interviews, and visual impact assessments/simulations within the APE for all activity areas, or portions thereof, in a manner consistent with the Protocol. Class III inventory of all proposed project facilities shall be completed prior to construction.

4. The required inventory/identification activities shall be completed regardless of the ownership (Federal or private) of the lands involved. SPPC shall be responsible for pursuing commercially reasonable efforts for gaining access to privately held lands through applying all reasonable means available including obtaining right of entry through courts with legal jurisdiction. After reasonable efforts are made, if access cannot be obtained to private land and after consulting with the BLM, the SPPC shall use existing data to determine the types of resources that might be present and anticipated effects. Upon BLM determination that the intention of this section has been satisfied, the BLM Authorized Officer may issue a Notice to Proceed (NTP) for any construction segment as prescribed in Stipulation G.

B. Eligibility

1. The BLM, in consultation with the SHPO, shall evaluate all cultural resources located within the APE for eligibility to the NRHP. Eligibility will be determined prior to the initiation of activities that may affect cultural resources. Eligibility will be determined in a manner consistent with the Protocol.

2. The BLM shall consult with the appropriate Tribe to evaluate the eligibility of properties of traditional religious and cultural importance.

3. To the extent practicable, eligibility determinations shall be based on documented inventory information. If the information gathered in the inventory is inadequate to determine eligibility, the Proponent(s), through its contractor, may be required to conduct limited subsurface testing or other evaluative techniques to determine eligibility.

4. The BLM will review and comment on any report submitted by the Proponent(s), through its contractor, within thirty (30) calendar days of receipt. Comments from Reclamation, Tribe and interested parties will be considered and incorporated, as appropriate, into the revised report.

5. If any of the signatories, Tribe, or interested parties disagree regarding eligibility of a cultural property, the BLM, SHPO, and the signatories, Tribe, or interested parties shall work together to seek a resolution on the determination of eligibility. If the dispute cannot be resolved, the BLM shall seek a formal determination of eligibility from the Keeper of the National Register in accordance with 36 CFR 63.2. The Keeper's determination will be considered final.

C. Treatment

1. BLM shall submit the results of all identification, evaluation, effects assessment, and treatment efforts, including discovery situations, and Treatment or Data Recovery Plans to the SHPO. The SHPO will have fifteen (15) calendar days from their receipt to review and comment on any submission.

2. When avoidance is not feasible and data recovery is proposed to lessen or mitigate project-related adverse effects to historic properties, the BLM, in consultation with the SHPO, shall ensure that the Proponent(s), through its contractor, develop a Data Recovery/Treatment Plan (Plan) that is consistent with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-37), *Treatment of Historic Properties: A Handbook* (Advisory Council on Historic Preservation 1980) and ACHP's Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites dated June 17, 1999. BLM shall submit the Plan to SHPO with a fifteen (15) day review and comment period. At the same time, the BLM shall provide the Tribe and interested parties, as appropriate, with a copy of the Plan with the same fifteen (15) day review opportunity as afforded the SHPO.

3. For properties eligible under Criteria A through C as defined in National Park Service Bulletin #36, mitigation other than data recovery may be considered in the Treatment Plan (e.g., oral history, historic markers, exhibits, interpretive brochures or publications, etc.). Where appropriate, Treatment Plan shall include provisions (content and number of copies) for a publication for the general public.

4. To the extent practicable, BLM shall ensure that the Proponent(s) avoid adverse effects to historic properties through project design, or redesign, relocation of facilities, or by other means in a manner consistent with the Protocol.

5. Pursuant to Section H, the BLM shall ensure as a condition of approval/special stipulation on any license, permit or grant that the Proponent(s), through its contractor, implements and completes the fieldwork portions of any final Treatment or Data Recovery Plan prior to initiating any activities that may affect historic properties.

6. Pursuant to Section H, the BLM shall ensure that all records and materials resulting from identification and treatment efforts are curated in accordance with 36 CFR 79 in an approved curation facility in Nevada. As defined in the Native American Graves Protection and Repatriation Act (NAGPRA) materials will be handled in accordance with 43 CFR 10. All materials collected will be maintained in accordance with 36 CFR 79 or 43 CFR 10, until the final treatment report is complete and collections are curated and/or returned to their owners. The Proponent(s) or their contractor shall provide proof of curation to the BLM from the curatorial facility within two (2) weeks of BLM acceptance of the final reports.

7. Pursuant to Section H, the BLM shall ensure that all final archaeological reports resulting from actions pursuant to this PA will be provided to the signatories, Tribe, and other interested persons as identified. All such reports shall be consistent with contemporary professional standards and the Department of Interior's Formal Standards for Final Reports of Data Recovery Programs (48 FR 44716-44740). A draft final report of all identification, evaluation, treatment activities will be due to the BLM from the Proponent(s) within nine (9) months after the completion of the fieldwork associated with the activity, unless otherwise negotiated. Final reports will be due sixty (60) days after receiving BLM comments.

D. Discovery Situations

1. Prior to initiating any activities within the APE, the Proponent(s) will provide the BLM with a list of, and schedule for, the SWEP employees, contractors, and subcontractors empowered to halt all activities in a discovery situation and who will be responsible for notifying BLM of any discoveries. At least one of these employees will be present during all SWEP activities.

2. When previously unidentified cultural resources are discovered or an unanticipated impact situation occurs, all SWEP related activities within 100 meters/300 feet of the discovery/impact will cease immediately. The Proponent(s) through its contractor or its authorized representative shall secure the location to prevent vandalism or other damage. The Proponent(s) or its authorized representative shall immediately notify the BLM Authorized Officer of the discovery followed by written confirmation. Activity at the location shall be suspended until the discovery has been evaluated and any necessary mitigation measures completed.

3. The BLM shall notify the SHPO, RECLAMATION, Tribe, and interested parties as appropriate, within one (1) working day of being notified of the discovery or unanticipated impact, and consider their initial comments on the situation. Within two (2) working days after initial discovery, the BLM shall notify all signatories or other parties, of the decision to either allow SWEP activities to proceed or to require further evaluation and/or mitigation.

4. If, in consultation with the signatories, the BLM determines that mitigation for discoveries or unanticipated impacts is required, the BLM shall solicit comments from the signatories, Tribe, and interested persons, as appropriate, to develop mitigating measures. The signatories, Tribe, and interested persons, as appropriate, will be allowed two (2) working days to provide BLM with comments to be considered when BLM decides on the nature and extent of mitigative

efforts. Within seven (7) working days of initial SHPO notification, the BLM will inform all signatories of the nature of the mitigation required, and ensure that such mitigative actions are implemented before allowing SWEP activities to resume.

5. Pursuant to Section H, the BLM shall ensure that reports of mitigation efforts for discoveries or unanticipated impacts are completed in a timely manner and conform to the Department of Interior's Formal Standards for Final Reports of Data Recovery Program (42 FR 5377-79). Drafts of such reports shall be submitted to the SHPO for a fifteen (15) day review and comment period. Final reports shall be submitted to the SHPO, other signatories, Tribe, and interested persons, as appropriate for informational purposes.

6. Any disputes or objections arising during a discovery or unanticipated impact situation regarding the treatment of historic properties that cannot be resolved by BLM and SHPO shall be referred to the Nevada BLM State Office for resolution. The Nevada BLM State Office decision will be considered final.

7. SWEP related activities in the area of the discovery or unanticipated impact will be halted until the Proponent(s) are notified by the BLM Authorized Officer in writing that mitigation is complete and activities can resume.

E. Other Considerations

1. The BLM shall ensure that ethnographic, historic, architectural, and archaeological work conducted pursuant to this PA is carried out by or under the direct supervision of persons meeting qualifications set forth in the Draft Secretary of the Interior's Professional Qualification Standards dated June 20, 1997 (62 FR 33707-33723).

2. Prior to construction, the Proponent(s), in cooperation with BLM and SHPO, shall provide in house training by the Cultural Contractor to ensure that all its personnel and all the personnel of its contractors and subcontractors are directed not to engage in the illegal collection of historic and prehistoric materials. Subsequent hires for field work will also be required to be subject to similar training prior to operating in the field. Training can be in association with the Proponent(s) safety and or related job training and project orientation. The Proponent(s) shall cooperate with the BLM to ensure compliance with the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470) on Federal lands and with Nevada Revised Statutes (NRS) 381 for private lands.

3. Pursuant to Section H, the Proponent(s) shall bear the expense of identification, evaluation, and treatment of all cultural properties directly or indirectly affected by SWEP related activity. Such costs shall include, but not be limited to, pre-field planning, fieldwork, post-fieldwork analysis, research and report preparation, interim and summary report preparation, publications for the general public, and the cost of curating project documentation and artifact collections. If the Proponent(s) withdraw project applications, then the Proponent(s) shall incur no further expense except for completing fieldwork and post-fieldwork activities (production of final

inventory, testing and data recovery reports covering the description and analysis of data, and the curation of materials) that has occurred as of the date of withdrawal.

4. In general, the identification, evaluation, and treatment of historic properties directly affected by the SWEP shall be limited to the project-related construction. However, identification, evaluation, and treatment efforts may extend beyond the geographic limits of the construction when the resources being considered extend beyond the boundary of the construction activities.

5. Properties of traditional religious and cultural importance will be identified, evaluated, and treated through consultation with appropriate interested persons and shall be consistent with the Protocol. The Proponent(s) may contract for data gathering to assist the BLM in identifying, evaluating, and treating these properties. However, formal consultation, as needed, will be completed and documented by the BLM.

6. Information on the location and nature of all cultural resources and information considered proprietary by Tribe will be held confidential to the extent provided by Federal and state law.

7. The BLM shall ensure that any human remains, grave goods, items of cultural patrimony, and sacred objects encountered during the undertaking are treated with the respect due such materials. In coordination with this PA, human remains and associated grave goods found on Federal land will be handled according to the provisions of the NAGPRA and its implementing regulations (43 CFR 10). Human remains and associated grave goods on private land will be handled according to the provisions of NRS 383.

F. Monitoring

1. Any signatory may monitor actions carried out pursuant to this PA. To the extent practicable, all monitoring activities will be done so as to minimize the number of monitors involved in the undertaking.

2. Any areas that the BLM, in consultation with the SHPO, RECLAMATION, Tribe, or interested party identifies as sensitive will be monitored by an appropriate professional (Monitor) during related construction activities. The Proponent(s) may also provide for a tribal representative during construction activities that may impact the area. Monitors shall be empowered to stop work to protect resources if that work is inconsistent with the terms of this PA or any corresponding treatment/monitoring plan.

G. Notices to Proceed

The BLM, in consultation with the other signatories, may issue NTP to each of the Proponent(s) for individual construction segments as defined by the Proponent(s) in their Construction Plan, under any of the following conditions:

1. The BLM and SHPO have determined that there are no cultural resources within the APE for that construction segment/location; or

2. The BLM and SHPO have determined that there are no historic properties within the APE for the construction segment/locations; or

3. The BLM, after consultation with the SHPO and interested persons, has implemented an adequate Treatment Plan for the construction segment/location, and

(a) The fieldwork phase of the treatment option has been completed; and

(b) The BLM has accepted a summary description of the fieldwork performed and a reporting schedule for that work; and

(c) The SHPO has received, reviewed and accepted the description of the fieldwork prior to the Notice to Proceed; and

(d) RECLAMATION has received, reviewed and accepted the description of the fieldwork prior to the Notice to Proceed.

4. The Proponent(s) have posted a surety as set forth in Section H.1.

H. Surety Bonds

1. Based on a written detailed cost estimate submitted by the Cultural Contractor and agreed to by the responsible Proponent(s) and BLM, the Proponent(s) will post a surety bond with the BLM in an amount sufficient to cover all post-fieldwork costs associated with the inventory; implementing a Treatment Plan, Data Recovery Plan, or other cultural resource management activities. Such costs may include, but are not limited to post-fieldwork analyses, research and report preparation, interim and summary reports preparation, and the curation of project documentation and artifact collections in an approved curation facility. The surety shall be posted prior to BLM issuing any NTP. Additional surety bonds may be required by BLM to cover any of the issues associated with Sections C, D, and E of the PA.

2. The surety bond posted shall be subject to forfeiture if the post-fieldwork tasks are not completed within the time period established by the treatment option selected; provided, however, the BLM and the Proponent(s) may agree to extend any such time periods. The BLM shall notify the Proponent(s) that the surety is subject to forfeiture and shall allow the Proponent(s) thirty (30) calendar days to respond before action is taken to forfeit the surety.

3. The surety bond shall be released, in whole or in part, as specific post-fieldwork tasks, including final disposition of all collections, are completed and accepted by the BLM.

IV. Dispute Resolution

1. If there is an objection by any signatory to the manner in which the terms of this PA are implemented, the objecting signatory will notify the Stillwater Field Manager in writing of the objection. The Stillwater Field Manager will notify all other signatories of the objection. All signatories will consult to resolve the objection. If the BLM determines that the objection cannot be resolved, it shall request assistance of the BLM Nevada State Office to help resolve the objection. The final decision for resolution of the objection by any signatory shall be made by the BLM State Director.

2. The signatories may continue all actions under this PA that are not the subject of the dispute.

V. Amendment

Any signatory to this PA may request that this PA be amended, whereupon the signatories will consult to consider such amendment.

VI. Termination

Any signatory may initiate consultation for termination by providing written notice to the other parties of their intent. After notification by the initiating consulting party, the remaining signatories shall have thirty (30) calendar days to consult to seek agreement on amendments or any other actions that would address the issues and avoid termination. If such consultation fails, the termination will go into effect at the end of this thirty (30) calendar-day period, unless all parties agree to a longer period. The party or parties to the termination shall be required to meet any and all current or outstanding obligations the party or parties assumed under the terms of the PA.

VII. Execution

1. Execution and implementation of this PA evidences that the signatories have satisfied their Section 106 responsibilities for all actions associated with the construction of the SWEP.

2. In the event that the signatories do not carry out the requirements of this PA or it is terminated, the BLM will comply with the provisions of the Protocol.

3. This PA shall become effective on the date of the last signature below, and shall remain in effect until terminated as provided in Section VI. or until undertaking is completed.

The remainder of the page intentionally left blank.

Signatories:

Bureau of Land Management, Stillwater Field Office

Teresa Knutson, Field Manager — Date: 10/05/2010

Nevada State Historic Preservation Officer

Ronald M. James, State Historic Preservation Officer and Historian — Date: 10-5-10

Bureau of Reclamation, Lahontan Basin Area Office

Kenneth Parr, Area Manager Lahontan Basin Area Office — Date: 09/27/10

Consulting Parties:

Sierra Pacific Power Company

Lee R. Simpkins, Team Leader Environmental Services Dept. — Date: 09/28/10

Vulcan Power Company

Ken Bonin, Sr., Director of Permitting — Date: 09/30/10

Ormat Technologies, Inc.

Scott Kessler, Project Manager — Date: 9-27-2010

APPENDIX A: AREA OF POTENTIAL EFFECT

SALT WELLS ENERGY PROJECT GENERAL LEGAL DESCRIPTION

Sierra Pacific Power Company—(815 acres)

Proposed Greenwave Substation(approx. 12 acres): NW/NW of Sec. 1, T.18N, R. 28E.

Proposed 60kV folds (approx. 200 x 100 ft): SW/SW of Sec. 36, T.19N, R.28E.

Proposed Action and Alternatives for 230kV lines (approx. 45 miles x 300 ft): Begins in the NW/NW/NW of Sec. 1, T.18N, R.28E and crosses Secs. 1, 12, 13, 24, 25, and 36 in that township and range; Sec. 1 of T.17N, R.28E; Secs. 19, 20, 27, 28, 29, 30, 31, 32, 33, 34, 35, and 36 of T.18N, R.29E; Secs. 1, 2, 3, 4, 6, 7, 8, 9, and 10, T.17N, R.29E; Sec. 31, T.18N, R.30E; Secs. 5, 8, 9, 15, 22, 23, 26, and ending in the NW/SW of Sec. 36, T.17N, R.30E.

Proposed Bass Flat 230kV Switching Station (approx. 12 acres): SE/SE Sec. 22, T.16N, R.30E.

Ormat Technologies, Inc.---(325 acres)

Ormat legal descriptions include block areas surrounding proposed wells, pipelines, and powerplants within the Ormat Lease Boundary.

Proposed blocks include: the W1/2/SE/SW and the SW/NE/SW of Sec. 19; the SW1/4, the SW/SW/SE, the SE/NW, and part of the SW/NE/NW of Sec. 30; most of the N1/2, and the eastern edge of the SE1/4 of Sec. 31; and part of the W1/2 of the SW1/4 of Sec. 32, T.18N, R.30E; part of the W1/2 of Sec. 5, the SE/SE of Sec. 6, part of the E1/2 of Sec. 7, and part of the W1/2 of Sec. 8, T.17N, R.30E; and S1/2 N 1/4 of Sec. 31, T.18N, R.31E .

Proposed Macari 230kV Switching Station (approx. 12 acres): SE/NW of Sec. 31, T.18N, R.30E.

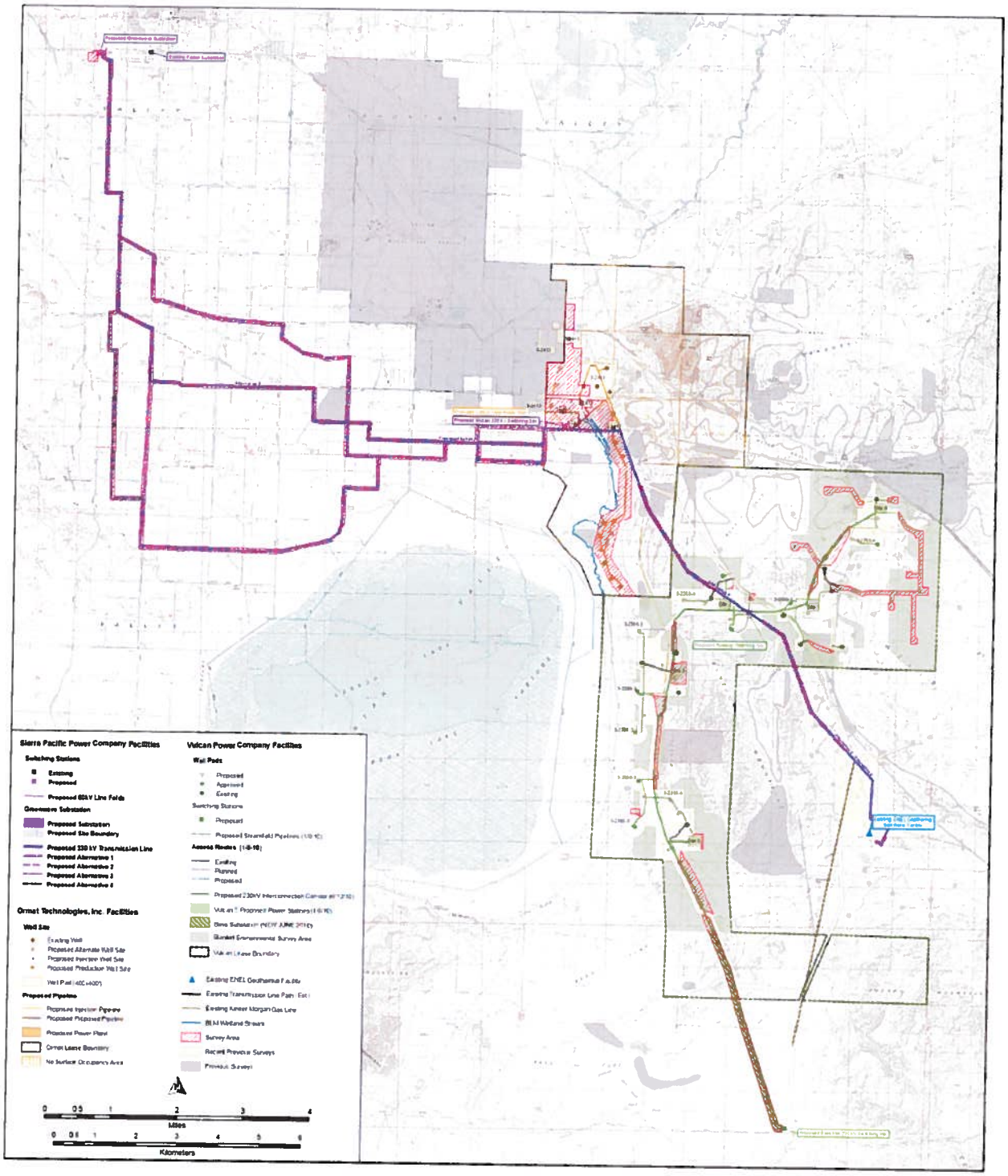
Vulcan Power Company—(approx. 826 acres)

Proposed power plants, well pads, pipelines, and access road corridors would cross parts of the following: Secs. 1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 29, 32, and 33, T.17N, R.30E, and part of Sec. 4, T.16N, R.30E. A new 500-foot-wide transmission corridor extends through parts of Secs. 9, 10, 15, and 22 ending at the proposed Bass Flat 230kV Switching Station in the SE1/4 of Sec. 22, T.16N, R.30E.

Vulcan Power Company—(approx. 4,016 acres)

Blanket environmental surveys cover parts of Secs. 1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 28, 29, 32, and 33, T.17N, R.30E, and all of Sec. 4, T.16N, R.30E. A new 500-foot-wide transmission corridor extends through parts of Secs. 9, 10, 15, and 22 ending at the proposed Bass Flat 230kV Switching Station in the SE1/4 of Sec. 22, T.16N, R.30E.

FIGURE 1: MAP OF THE PROJECT AREA



FIRST AMENDMENT
PROGRAMMATIC AGREEMENT
AMONG
THE BUREAU OF LAND MANAGEMENT, BUREAU OF RECLAMATION,
AND THE NEVADA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE SALT WELLS ENERGY PROJECTS

WHEREAS, the Salt Wells Energy Projects Programmatic Agreement (PA) between the Bureau of Land Management (BLM), the Bureau of Reclamation (Reclamation), and the Nevada State Historic Preservation Officer (SHPO) was executed on October 5, 2010. BLM is the lead federal agency for the implementation of this PA.

WHEREAS, Reclamation requires further clarification of Reclamation's responsibilities under this PA; and

WHEREAS, BLM will send a copy of this executed amendment to the ACHP; and

NOW THEREFORE, in accordance with Section V of the Agreement, BLM, Reclamation, NPS, and SHPO agree to amend the Agreement as follows:

1. Add the following clauses:

   WHEREAS, the BLM has authority to manage the subsurface estate, including geothermal resources, on Reclamation withdrawn lands while Reclamation retains surface management. Reclamation will issue a license for surface occupancy for the construction and maintenance of the 230kV transmission line where it crosses Reclamation withdrawn and acquired lands, and may issue additional licenses for surface activities related to this project.

   WHEREAS, the BLM has determined that the Pony Express National Historic Trail will be adversely affected by the proposed undertakings and has notified the National Park Service National Trails Intermountain Region office (NPS). The NPS has elected to participate in the development of Treatment Plan(s) to mitigate adverse effects; and

2. Amend the following clause to read as follows:

NOW, THEREFORE, the signatories BLM, Reclamation, NPS, and SHPO, agree that construction of the SWEP shall be administered in accordance with the following stipulations to ensure that historic properties will be treated to avoid or mitigate effects to the extent practicable, regardless of surface ownership and to satisfy BLM, NPS, and Reclamation Section 106 responsibilities for all aspects of the undertaking.

3. Amend Stipulation III.B.1 so it reads as follows:

   The BLM, in consultation with Reclamation, for resources on Reclamation land, and the SHPO, shall evaluate all cultural resources located within the APE for eligibility to the NRHP.

Eligibility will be determined prior to the initiation of activities that may affect cultural resources. Eligibility will be determined in a manner consistent with the Protocol.

4. Amend Stipulation III.C.1 so it reads as follows:

   BLM shall submit the results of all identification, evaluation, effects assessment, and treatment efforts to avoid adverse effects, including discovery situations, to Reclamation, for historic properties on Reclamation land, to the National Park Service (NPS) for the Pony Express National Historic Trail (NHT), and the SHPO. The SHPO, NPS for result regarding the Pony Express NHT, and Reclamation, for results regarding Reclamation land, will have fifteen (15) calendar days from their receipt to review and comment on any submission.

5. Amend Stipulation III.C.2 so it reads as follows:

   When avoidance is not feasible and mitigation is proposed to lessen project- related adverse effects to historic properties, the BLM, in consultation with Reclamation, for data recovery on Reclamation land, in consultation with NPS for a treatment plan on the Pony Express NHT, and the SHPO, shall ensure that the Proponent(s), through its contractor, develop a Data Recovery/Treatment Plan (Plan) that is consistent with the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-37), Treatment of Historic Properties: A Handbook (Advisory Council on Historic Preservation 1980) and ACHP's Recommended Approach for Consultation on the Recovery of Significant Information from Archaeological Sites dated June 17, 1999. BLM shall submit the Plan to SHPO, to Reclamation, for Plans on Reclamation land, and to NPS for Plans on the Pony Express NHT with a fifteen (15) day review and comment period. At the same time, the BLM shall provide the Tribe and interested parties, as appropriate, with a copy of the Plan with the same fifteen (15) day review opportunity as afforded the SHPO.

6. Amend Stipulation III.C.6 so it reads as follows:

   Pursuant to Section H, the BLM shall ensure that all records and materials resulting from identification and treatment efforts are curated in accordance with 36 CFR 79 in an approved curation facility in Nevada. As defined in the Native American Graves Protection and Repatriation Act (NAGPRA) materials will be handled in accordance with 43 CFR 10. All materials collected will be maintained in accordance with 36 CFR 79 or 43 CFR 10, until the final treatment report is complete and collections are curated and/or returned to their owners. The Proponent(s) or their contractor shall provide proof of curation to the BLM from the curatorial facility within two (2) weeks of BLM acceptance of the final reports. Collections and associated records recovered from Reclamation lands belong to Reclamation and will be delivered to Reclamation for accessioning and inventory. Reclamation will enter into a curation agreement with a Nevada facility that meets 36 CFR 79 for curation of collections from Reclamation land.

7. Amend Stipulation III.D.3 so that it reads as follows:

The BLM shall notify and consult with the SHPO, Reclamation, Tribe, and interested parties as appropriate, within one (1) working day of being notified of the discovery or unanticipated impact, and consider their initial comments on the situation. Within two (2) working days after initial discovery, the BLM shall notify all signatories or other parties, of the decision to either allow SWEP activities to proceed or to require further evaluation and/or mitigation.

8. Amend Stipulation III.D.5 so it reads as follows:

Pursuant to Section H, the BLM shall ensure that reports of mitigation efforts for discoveries or unanticipated impacts are completed in a timely manner and conform to the Department of Interior's Formal Standards for Final Reports of Data Recovery Program (42 FR 5377-79). Drafts of such reports shall be submitted to the SHPO and Reclamation for discoveries or unanticipated impacts on Reclamation land, for a fifteen (15) day review and comment period. Final reports shall be submitted to the SHPO, other signatories, Tribe, and interested persons, as appropriate for informational purposes.

9. Amend Stipulation III.D.6 so it reads as follows:

Any disputes or objections arising during a discovery or unanticipated impact situation regarding the treatment of historic properties that cannot be resolved by BLM and SHPO shall be referred to the Nevada BLM State Office or to Reclamation for Reclamation lands for resolution. The Nevada BLM State Office or Reclamation, for Reclamation land, decision will be considered final.

10. Amend Stipulation IV.1 so it reads as follows:

If there is an objection by any signatory to the manner in which the terms of this PA are implemented, the objecting signatory will notify the Stillwater Field Manager in writing of the objection. The Stillwater Field Manager will notify all other signatories of the objection. All signatories will consult to resolve the objection. If the BLM determines that the objection cannot be resolved, it shall request assistance of the BLM Nevada State Office or Reclamation for Reclamation land to help resolve the objection. The final decision for resolution of the objection by any signatory shall be made by the BLM State Director or the Reclamation's authorized official.

11. Amend Stipulation VII.2 so it reads as follows:

In the event that the signatories do not carry out the requirements of this PA or it is terminated, the BLM will remain the lead Federal agency for this Project and comply with the provisions of the Protocol.

Signatures:

Bureau of Land Management, Stillwater Field Office

Teresa J. Knutson

Teresa Knutson, Field Manager

06/14/2011

Date

Nevada State Historic Preservation Officer

Ronald M. James, State Historic Preservation Officer and Historian

6-15-2011

Date

Bureau of Reclamation, Lahontan Basin Area Office

Kenneth S. Parr

Kenneth Parr, Area Manager

6/7/11

Date