# Record of Decision (ROD)

## Final Environmental Impact Statement

## For The K Road Moapa Solar Generation Facility

U.S. Department of the Interior
Bureau of Indian Affairs
Western Regional Office
Phoenix, Arizona

U.S. Department of the Interior
Bureau of Land Management
Southern Nevada District
Las Vegas, Nevada

June 2012

**DEPARTMENT OF THE INTERIOR**

Record of Decision for a 2,000 acre, long term lease for the development of a 350 MW solar generation facility and approximately 153 acres of associated Rights of Way (ROW) for an access road, transmission lines and a water pipeline on the Moapa River Indian Reservation and land managed by the Bureau of Land Management in Clark County, Nevada.

**AGENCY**: Bureau of Indian Affairs & Bureau of Land Management

**ACTION**: Record of Decision

**SUMMARY**: This document constitutes the United States Department of the Interior (DOI), the Bureau of Indian Affairs (BIA), and the Bureau of Land Management's (BLM) Record of Decision (ROD) for the K Road Moapa Solar Generation Facility Project (Project). This ROD represents BIA's approval of the Moapa Band of Paiute Indians (Tribe) solar energy ground lease with K Road Power LLC (The Applicant) and the associated easements for transmission lines and access road rights-of-way (ROWs) for up to 50 years, on the Moapa River Indian Reservation (Reservation) for the purposes of constructing and operating a 350 megawatt (MW) Photovoltaic (PV) solar generating station and associated infrastructure. The ROD also approves the BLM's issuance of two ROW grants for an up to 500 kilovolt (kV) transmission line and access road on BLM land and within a BLM-administered utility corridor. The Project is analyzed in the Final Environmental Impact Statement (FEIS) (BIA 2012), notice of which was issued on March 16, 2012, through the Environmental Protection Agency's (EPA) Notice of Availability published in the *Federal Register* as well as through the BIA Notice of Availability published in the *Federal Register* on March 16, 2012. Cooperating agencies for development of the FEIS were the EPA, U.S. Army Corps of Engineers (USACE) and the Tribe.

**ADDITIONAL COPIES**: Copies of the FEIS and ROD are available at the project web site http://projects2.pirnie.com/MoapaSolar/ as well as via links on the BIA and BLM websites. Additionally, copies will be available in the following locations: BIA Western Regional Office, 2600 North Central Avenue, 12th Floor, Suite 210, Phoenix, Arizona; U.S. Bureau of Land Management, 4701 N. Torrey Pines Drive Las Vegas, NV 89130; BIA Southern Paiute Agency, 180 North 200 East, Suite 111, St. George, Utah; and Moapa River Indian Reservation Tribal Hall, One Lincoln Street, Moapa, NV 89025-0340. A Federal Register notice regarding the availability of the FEIS was issued on March 16, 2012. Notices were also published in the Moapa Review and Las Vegas Review Journal newspapers.

**FOR FURTHER INFORMATION CONTACT**: Ms. Amy Heuslein, BIA Western Regional Environmental Protection Officer, at amy.heuslein@bia.gov or (602-379-6750) and/or Mr. Paul Schlafly, BIA Southern Paiute Agency Natural Resource Officer, at paul.schlafly@bia.gov or (435-674-9720).

## Table of Contents


**1. Introduction** 1

1.1 Background 2

1.2 Decisions to be made 3

1.2.1 BIA 3

1.2.2 BLM 3

**2. Alternatives Considered and Carried Forward for Detailed Analysis** 4

2.1 Proposed Project (BIA's Proposed Action/Selected Alternative) 4

2.2 Alternative I: Reduced Solar Facility Footprint and Alternative 500 kV Transmission Line 4

2.3 No Action Alternative 5

**3. Alternatives Considered but Eliminated from Detailed Analysis** 5

3.1 Optional Site Location 6

3.2 Optional Utility Corridor 7

3.3 Technology Options 7

**4. Permits and Approvals** 8

**5. Corrections to the Final EIS** 9

**6. Mitigation Measures** 9

6.1 Soils 10

6.2 Water Quality 10

6.3 Air 11

6.4 Biological Resources 13

6.4.1 General 13

6.4.1 Sensitive Plant Species 13

6.4.2 Desert Tortoise 14

6.4.3 Moapa Dace 14

6.4.4 Migratory Birds 15

6.4.5 Gila Monster 18

6.5 Cultural Resources 19

6.6 Transportation 20

6.7 Public Health & Safety 21

6.8 Mitigations Measures Not Adopted 22

6.9 Mitigation Compliance Monitoring and Reporting 22

**7. PUBLIC INVOLVEMENT 22**

7.1 Public Scoping Period 22

7.2 Scoping Meetings 23

7.3 Draft EIS Preparation and Distribution 23

7.4 Final EIS Preparation and Distribution 24

**8. Decision Rationale 24**

8.1 BLM Directive 25

8.2 BIA Directive 26

8.2.1 Analysis of Required Factors 27

**9. Final Agency Action 29**

9.1 Bureau of Indian Affairs 29

9.2 Bureau of Land Management 29

**10. Secretarial Approval 30**

**11. References 31**

**ATTACHMENT A – Tribal Resolution**

**ATTACHMENT B – Comments to the FEIS**

## 1. Introduction

This document constitutes the United States Department of the Interior (DOI), the Bureau of Indian Affairs (BIA), and the Bureau of Land Management's (BLM) Record of Decision (ROD) for the K Road Moapa Solar Generation Facility Project (Project). This ROD represents BIA's approval of the Moapa Band of Paiute Indians (Tribe) solar energy ground lease with K Road Power LLC (Applicant) and the associated easements for transmission lines and access road rights-of-way (ROWs) for up to 50 years, on the Moapa River Indian Reservation (Reservation) for the purposes of constructing and operating a 350 megawatt (MW) Photovoltaic (PV) solar generating station and associated infrastructure. The ROD also approves the BLM's issuance of two ROW grants for an up to 500 kilovolt (kV) transmission line and access road on BLM land and within a BLM-administered utility corridor. The Project is analyzed in the Final Environmental Impact Statement (FEIS) (BIA 2012), notice of which was issued on March 16, 2012, through the Environmental Protection Agency's (EPA) Notice of Availability published in the *Federal Register* as well as through the BIA Notice of Availability published in the *Federal Register* on March 16, 2012. Cooperating agencies for development of the FEIS included the BLM, EPA, U.S. Army Corps of Engineers (USACE) and the Tribe.

The Project is approximately 25 miles north of Las Vegas, Nevada on the Moapa River Indian Reservation with its center at Township 16 South and Range 65 East. The Project will be located on approximately 2,153 acres of tribal trust land of which 10.5 acres are on BLM managed land (for a right-of-way). The Project will have impacts to an additional 6,000 acres of tribal trust lands for mitigation purposes. The 2,000 acre solar facility is wholly within the Reservation as is a 6,000 acre desert tortoise relocation area. An additional 5,000 acres (2,500 acres north and south of the project area adjacent to Interstate 15 (I-15) and on the Reservation) will also be set aside for potential desert tortoise relocation if needed. Total acreage utilized for desert tortoise relocation would not exceed 6,000 acres. The remaining 153 acres is comprised of a high voltage transmission line up to 500 kV, a 16-24 feet wide access road approximately 8-miles long, an approximately 1-mile water pipeline and an approximately 3-mile 12 kV transmission line linking the Moapa Travel Plaza (Travel Plaza) on the east side of I-15 to the Project substation which will facilitate access to the electric grid for the Travel Plaza.

The Project will be built in three phases. The first phase will consist of the construction and operation of an approximate 150 MW solar plant including the transmission line, access road and associated facilities. Phases two and three will add approximately 100 MW each in a consecutive

manner. The electricity generated from this project will be sold to market via a Power Purchase Agreement (PPA). The facility will utilize transformers to step up the voltage to facilitate a connection of the solar facility to the existing Crystal substation, operated by Nevada Energy outside tribal lands, with one or more of the following: the existing 230 kV bus, and/or the existing 500 kV bus.

This ROD will provide background on the solar project, describe the alternatives, discuss mitigation measure implemented, and summarize the public participation process to reach a decision rationale.

## 1.1 Background

The Applicant is proposing to construct a 350 MW solar PV generation facility and associated infrastructure on the Reservation in Clark County, Nevada. The Reservation consists of 71,954 acres of land held in trust for the Tribe. The BIA's mission is to "enhance the quality of life, to promote economic opportunity, and to carry out the responsibility to protect and improve the trust assets of American Indians, Indian Tribes, and Alaska Natives." The Project will primarily create economic development opportunity for the Tribe, provide lease income as a revenue source for the Tribe, create new jobs and employment opportunities for Tribal members, develop sustainable renewable resources, and provide other benefits, such as connection of the Travel Plaza to the electric grid. The Project also will assist utilities in meeting their renewable energy goals by providing clean renewable electricity generated from the solar resources that may be efficiently connected to existing transmission lines in a manner that minimizes adverse site impacts.

The Project supports the President's New Energy for America Plan, which sets a target of ensuring that 10% of United States electricity is generated from renewable sources by 2012, rising to 25% by 2025. Secretarial Order 3285 issued by the Secretary of the Interior (March 11, 2009, as amended February 22, 2010) encourages the production, development, and delivery of renewable energy as one of the DOI's highest priorities. The Project is listed on DOI's fast track list and supports the new Executive Order issued March 22, 2012 "Improving Performance of Federal Permitting and Review of Infrastructure Projects". The States of Nevada and California also have established a Renewable Portfolio Standard (RPS) that all public utilities must meet by investing in, and partnering with, commercial project developers to purchase renewable generated power, and participate in turnkey projects and/or co-development of renewable

projects. The RPS mandates that 25 percent of retail sales in Nevada come from renewable resources by 2025 (33 percent in California). It is expected that at least 1,000 MW of new solar power will be required annually to meet this need in Nevada and 13,000 MW in California; both could be serviced by this Project.

## 1.2 Decisions to be made

### 1.2.1 BIA

The BIA has a trust responsibility to protect and preserve the Tribe's land, assets, and resources while promoting tribal self-governance. Under the Indian Long-Term Leasing Act, 69 Stat. 539, 25 U.S.C. § 415(a), and regulations implementing the Act at 25 C.F.R. Part 162, BIA approval is required for the solar energy ground lease and the associated easements for transmission lines (500kV and 12kV) and water pipeline and access road ROW, pursuant to the Act of February 5, 1948, 62 Stat. 17, 25 U.S.C. §§ 323-328 and its governing regulations at 25 CFR Part 169.

### 1.2.2 BLM

BLM's purpose and need for the Proposed Project is to respond to the Applicant's application under Title V of the Federal Land Policy and Management Act (FLPMA) (43 U.S.C. §1761(a)) for ROW grants to construct, operate, maintain, and decommission an electric transmission line and access road (BLM ROW application NVN-089716), associated with the solar facility on Reservation land in compliance with FLPMA, BLM ROW regulations, 43 C.F.R. Part 2800, and other applicable federal law. The ROW would include 5.0 miles within an existing utility corridor managed by BLM, but located on the Reservation and 0.5 miles is located on BLM land just south of the Reservation boundary (BLM Proposed Action) for a total of 5.5 miles of transmission ROW. The existing utility corridor is administered by the BLM in accordance with Pub. L. No. 96-491 (Dec. 2, 1980) (the Moapa Utility Corridor and the Moapa Act) and reserved to the BLM under Pub. L. 96-491. This ROW is in the Mount Diablo Meridian, Nevada, specifically: T. 16 S., R. 64 E., sec. 13, lot 9, 11, 14; sec. 14, lot 15, 16, NE¼SE¼, NW¼SE¼, SW¼SE¼, SE¼SW¼; sec. 22, lot 15, NE¼SE¼, NW¼SE¼, SW¼SE¼; sec. 23, lot 4, 5, 12, NE¼NW¼, NW¼NW¼, SW¼NW¼; sec. 27, lot 4, 5, 12, NE¼NW¼, NW¼NW¼, SW¼NW¼; sec. 28, NE¼SE¼, SE¼SE¼; sec. 33, NE¼NE¼, SE¼NE¼, NE¼SE¼, SW¼SE¼, SE¼SE¼. T. 17 S., R. 64 E., sec. 10, lot 7, SE¼NW¼, NE¼SW¼, SW¼SW¼, SE¼SW¼; sec. 15, NE¼NW¼, NW¼NW¼, SW¼NW¼; sec. 16, SE¼NE¼, NE¼SW¼.

## 2. Alternatives Considered and Carried Forward for Detailed Analysis

### 2.1 Proposed Project (BIA's Proposed Action/Selected Alternative)

Under the Selected Alternative, also identified as the Environmental Preferred Alternative, the Applicant will construct, operate, maintain, and decommission (or transfer to the Tribe at the end of the lease, pursuant to Lease terms) an up to 350 MW solar PV power plant on Tribal lands within the Reservation located in Clark County, Nevada.

The Project facilities and related facilities will disturb an approximate total area of 2,153 acres out of 71,954 acres of the Reservation. The solar arrays, substation, and operations building and parking will be contained within a 2,000 acre solar facility footprint on the Reservation; the up to 500 kV transmission line corridor (up to 150-foot wide) will impact approximately 100 acres and have a length of approximately 5.50 miles; the water line (25-foot wide) will impact approximately 3 acres and have a length of approximately 1 mile; the 12 kV transmission line (25-foot wide) will impact approximately 9 acres of land, adjacent to an unimproved road and water pipeline ROW, and have a length of approximately 3 miles. The Project is designed to be constructed in three phases consisting of 100 MW to 150 MW sections within the solar facility boundary. Impacts resulting from access roads will be minimal as existing improved and unimproved roads would be utilized and upgraded or expanded to 16-24 feet in width. The existing utility access road that originates from Las Vegas Boulevard, at exit 63 from I-15, and provides direct access to the Crystal substation will be the primary access route for the Project.

### 2.2 Alternative I: Reduced Solar Facility Footprint and Alternative 500 kV Transmission Line

Alternative I would provide for a reduced solar facility footprint that would only complete Phases 1 and 2 of the Proposed Project and impact approximately 1,400 acres of land and produce 250 MW of solar electricity. This alternative would also utilize an alternative 4.9 mile corridor for the up to 500 kV transmission line ROW. The alternative ROW would be a direct route to the existing Crystal substation and impact less overall acreage for construction; however, it would traverse an open area of the desert outside of the existing BLM managed utility corridor. This alternative was found to yield environmental impacts similar to the BIA Proposed Action/Selected Alternative.

### 2.3 No Action Alternative

The No Action Alternative assumes that BIA would not approve the lease agreement, the BLM would not approve the ROW utility and access road easements, and the Applicant would not build the solar project. The No Action Alternative would not meet BIA's and BLM's purpose and need for the project. The Tribe also would not benefit economically from the energy production that can be obtained from their prime solar resources. Additionally, there would not be support or infrastructure for the interconnect of the Tribe's Travel Plaza to the electricity grid. The No Action alternative would not eliminate use of diesel generators at the Travel Plaza and therefore the renewable energy benefit would be lost. The No Action Alternative forms the baseline against which the potential impacts of the Proposed Action and Alternative I are compared.

## 3. Alternatives Considered but Eliminated from Detailed Analysis

The National Environmental Policy Act (NEPA) requires federal officials to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail. 40 CFR § 1502.14. Specific alternatives that were eliminated from detailed analysis are discussed below, along with the rationale for their elimination.

Several sites within the Reservation were studied by a team that consisted of a geologist, a civil engineer, a biologist, a PV expert, a team leader, the BIA and tribal members. The Applicant inquired about a site on the east side of I-15 and behind the existing Travel Plaza, but was advised by the Tribe that it was allocated for other economic development initiatives and is not available for the Project. Further, the acreage required for the project was not available on the east side, within the Reservation, and on suitable flat land.

Other suitably-sized areas (minimum of 2,000 acres) within the Reservation on the west side of I-15 were rejected for any or all of the following reasons:

- adverse impact on day-to-day tribal life;
- incompatibility with tribal economic development plans for such areas;
- adverse impact to existing storm water runoff patterns;
- requirement for greater amounts of new construction of access roads;

- too great a distance from existing transmission infrastructure to allow for efficient interconnection to such existing infrastructure;
- requirement for more extensive tie line infrastructure, thereby covering a greater area of the reservation;
- possible impact on cultural resources;
- non-suitability of terrain for utility scale solar projects; and/or interference with existing railway operations.

### 3.1 Optional Site Location

The Optional Site Location and related facilities would disturb an approximate total area of 2,078 acres. The solar arrays, substation, and operations building and parking would be contained within a 2,000 acre footprint; the transmission line corridor (150-foot wide) would impact approximately 62 acres (3.4 miles) and the water line (25-foot wide) would impact approximately 3.0 acres (1.5 miles). The 12 kV line (25-foot wide) would impact approximately 12 acres (4.3 miles). Impacts as a result of access roads would be minimal as existing improved and unimproved roads from the southwest would be utilized. The Optional Site Location would utilize the same PV technology as the Proposed Project and would result in the same economic benefits to the Tribe; however, it could constitute additional or increased environmental impacts to the environment due to its location on the Reservation.

The Optional Site Location is located off the elevated mesa and lies approximately 2 miles west of the Proposed Project. The Optional Site was looked at as an alternative by both the Tribe and the Applicant. Facility siting parameters included: proximity to existing transmission line corridors and electric substation, relatively flat land, areas not scoped for future Tribe economic development, and areas with reliable solar generation potential. The Optional Site alternative was eliminated from further consideration because it would produce more adverse environmental and economic impacts than the Proposed Project, such as:

- more likely to impact major storm water runoff paths;
- more likely to have larger desert tortoise populations than the selected site due to its proximity to foothills, which are favored by tortoises;
- less suitable terrain for solar panels; there is over 200 feet of elevation relief from the north to south;

- shading from mountains during the afternoon would decrease efficiency and productivity of electric generation;
- more substantial vegetation; and would impact potential waters of the U.S. and be within the FEMA 100-year floodplain.

### 3.2 Optional Utility Corridor

This alternative would utilize the same 2,000 acre footprint as the Proposed Project, but the up to 500 kV transmission line corridor would connect in a more direct route to the Crystal substation and require less linear ground disturbance. The substation and Operations and Maintenance (O&M) building within the footprint would be located in the southern portion of the solar facility and the 12 kV transmission line to the Travel Plaza would be shorter. This alternative was reviewed and eliminated from further analysis because the alternate transmission line corridor has the potential to have greater impact on the environment. The BIA, BLM, and EPA recommended eliminating this alternative for the following reasons:

- The area transected by the alternative 500 kV line would create an independent and isolated corridor and could be used by raptors and other birds to prey upon sensitive species, such as the desert tortoise.
- By transecting the area between the existing railroad and existing 4,000-foot wide utility corridor, the potential for future projects to impact these areas increases and eventually could provide an avenue for a much larger utility corridor that spans the entire section of desert. Keeping all utilities within the existing corridor maintains visual aesthetics.

### 3.3 Technology Options

Alternative solar technologies to the Proposed Action's PV technology were considered, especially several forms of concentrated solar thermal power (CSP) and concentrated photovoltaic (CPV), but eliminated from further consideration because these technologies were less reliable, require more intense use of water, and/or have greater visual impacts. CSP uses sunlight to convert water into steam and requires more water than traditional PV. CSP has critical alignment needs due to the criticality of ensuring system mirrors constantly focus sunlight on the thermal collection media. This critical alignment feature creates the need for more substantial mechanical infrastructure than traditional PV and would require more maintenance. CPV technology uses layers of wafers to absorb different wavelengths of sunlight and provide more power conversion efficiency. This

technology requires absolute alignment with the direct sunlight in order to be efficient. This critical alignment requirement places a big emphasis on dual tracking technology is considered a potential burden due to the maintenance required to maintain that alignment. CPV technology also is designed to sit higher than traditional PV (as high as 40 feet above the surface). This additional height will present greater visual impacts than traditional PV. This technology is relatively new and long-term performance reliability is unknown. Lastly, manufacturing capacity to supply large-scale utility projects is another unknown factor that has not been proven to date.

## 4. Permits and Approvals

Below is a synopsis of the permits and approvals that have been obtained or will need to be obtained prior to construction activities:

- Endangered Species Act of 1973, as amended (ESA) (16 U.S.C. §1531 *et seq.*) - Section 7 of the ESA requires federal agencies to ensure that their actions do not jeopardize the continued existence of threatened or endangered species or result in destruction of their designated critical habitat. The Biological Opinion (BO) was issued by the U.S. Fish & Wildlife Service (USFWS) on March 7, 2012 (see K-Road Moapa FEIS at Appendix B).

- U.S. Environmental Protection Agency Section 402 Construction Stormwater Permit – This permit will be required prior to ground disturbing activities. A Stormwater Pollution Prevention Plan will be prepared that details erosion controls, drainage plans and other Best Management Practices engineered for the Project.

- Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) – Concurrence was obtained from Nevada State Historic Preservation Officer on November 8, 2011 that no historic or cultural resources would be impacted as a result of the Project (see K-Road Moapa FEIS at Appendix G).

- U.S. Army Corps of Engineers Section 404 Permit – A nationwide permit (Nationwide Permit 14) will be required for the upgrade of the access road across existing jurisdictional drainages. Water quality certification under Section 401 of the Clean Water Act is granted by the EPA for use of Nationwide Permit 14. All drainages on the solar facility site were deemed non-jurisdictional via a July 1, 2011 letter from USACE (see K-Road Moapa FEIS at Appendix K).

- Migratory Bird Treaty Act (MBTA) – Compliance with the MBTA will be adhered to through implementation of the Bird and Bat Conservation Strategy (see K-Road Moapa FEIS at Appendix O).

## 5. Corrections to the Final EIS

The following clarification is being made to the solar block dimensions as described in Chapter 2, Page 2-42. The solar field would be constructed in 2 MW blocks. Each block would be approximately 281 feet by 171 feet and would contain approximately 900 solar modules affixed on either single tracker or fixed tilt racking systems. Each block will deliver DC power to inverter stations where DC power will be converted to AC power and stepped up to a 34.5 kV medium voltage.

## 6. Mitigation Measures

As required by the Council of Environmental Quality (CEQ) NEPA regulations, 40 CFR § 1505.2(c), the BIA and the BLM have identified and adopted all practicable mitigation measures to avoid or minimize environmental harm from the Selected Alternative (Proposed Action Alternative) according to federal laws, rules, policies and regulations. The construction of the Project will also incorporate adaptive management principals to mitigate unforeseen impacts. Adaptive management is a structured, iterative process of optimal decision making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. In this way, decision making simultaneously maximizes one or more resource objectives and, either passively or actively, accrues information needed to improve future management. Adaptive management is a tool which should be used not only to change a system, but also to learn about the system (Holling 1978). Because adaptive management is based on a learning process, it improves long-run management outcomes. The challenge in using the adaptive management approach lies in finding the correct balance between gaining knowledge to improve management in the future and achieving the best short-term outcome based on current knowledge (Stankey & Allan 2009).

The below mitigation measures represent best management practices and technologies, and the most current regulatory guidance to reduce adverse impacts to environmental resources such that the overall Project will pose minimal significant impact. Results of the NEPA analyses determined that mitigation measures would be required for the following resources to minimize adverse effects: Soils, Water Quality, Air, Biological Resources, Transportation, and Public

Health & Safety. The complete language of the mitigation measures, as well as design modifications and terms and conditions, are provided in the FEIS.

## 6.1 Soils

It was determined in the environmental analysis that the Project could result in adverse impacts to soils as a result of increased erosion rates and reduction of soil productivity from compaction and mixing of topsoil. Due to grading, placement of solar infrastructure, and general construction practices, wind-blown and water-borne erosion may increase at the site. Digging, drilling, placement of aggregate, road construction, and frequent vehicular travel throughout the Project area will lead to compaction of soils and the inability of vegetation to re-grow. The Applicant is required to implement the following mitigation measures to reduce overall significant impacts to soil resources:

- Implement a Storm Water Pollution Prevention Plan (SWPPP) (See K-Road Moapa FEIS at Appendix D) – The SWPPP includes Best Management Practices (BMPs) and other erosion-control measures that would adequately maintain soil erosion, limit sheet flow and downstream sedimentation, as well as manage dust suppression by implementing watering and 'stop work' periods during high winds. The SWPPP also incorporates adaptive management of actions if erosion and sedimentation control measures are found to be insufficient to control surface water at the site. The SWPPP will be the responsibility of the Applicant.

- Implement a Site Restoration Plan (See K-Road Moapa FEIS at Appendix F) – This Plan will limit impacts to native, on-site vegetation as much as practicable. The Plan will define construction limits and BMP measures to ensure an off-site seed source does not enter the Project, and similarly, that on-site cleared vegetation is properly managed through relocation, mulching or disposal. The Plan also outlines any restoration measures that would include soil restoration and re-planting in feasible areas given on-going operations and maintenance. The Plan also discusses any relocation of yucca and cacti within the Reservation and establishes monitoring and success criteria for relocated plants.

## 6.2 Water Quality

Potential adverse impacts to water were related to soil erosion and downstream sedimentation as well as water transport of hazardous material through soil erosion. As mentioned above, soil

erosion will be managed via the SWPPP, and erosion controls, such as rock weirs or gabions, will be implemented within ephemeral washes to reduce velocity of flood flow and limit downstream sedimentation. Transport of potentially hazardous materials will be managed by the below measures to reduce overall impacts to water quality:

- Adaptive management will be implemented via the SWPPP to maintain BMPs utilized to decrease sediment erosion and downstream transport of such during large rain events. Erosion control measures will be inspected on a weekly basis and within 24 hours of a major rain event (more than ½ inch) to ensure proper working order. Inspection, maintenance and reporting procedures will be outlined in the SWPPP.
- Vegetative buffers will be utilized as much as practical along perimeter edges of major drainages.
- Emergency Response Plan (Construction Phase) – All contractors will be required to abide by this Plan during the construction phase of the Project. The Emergency Response Plan, prepared by the Applicant or individual contractors, offers guidelines and procedures for responding to defined emergencies that can threaten the safety and well-being of the contractors and employees during all phases of the Project; however, it will focus on construction emergencies.
- Spill Prevention, Control, and Countermeasure Plan (SPCC) (See K-Road Moapa FEIS at Appendix E) – This Plan will be adopted and followed during the life of the operations phase of the Proposed Project. The SPCC Plan will provide for hazardous material spill prevention and clean-up measures, were a spill to occur.
- To conserve water, xeric landscaping will be used if applicable and low-flow toilets and faucets will be installed within the maintenance and O&M offices.

By implementing the above mitigation measures it is assumed that potentially significant impacts to water resources can be mitigated to a minimal or no adverse impact status.

### 6.3 Air

The primary impact upon air quality will be during the construction and decommissioning period from increased number of vehicle emissions and the presence of fugitive dust. The Project is located in a non-attainment area for PM-10. Wind-driven emissions of fugitive dust will be generated following disturbances by construction activities, including mobile sources traveling

on paved and unpaved roadway surfaces. The following mitigation measures will be implemented to control fugitive dust and reduce overall air impacts as a result of the Project:

- Minimize grading and vegetation removal, and limit surface disturbance during construction to the time just before module support structure installation;
- Limit vehicular speeds on non-paved roads;
- Apply water to disturbed soil areas of the Project to control dust and to maintain moisture level at optimum levels for compaction, as needed. Water, supplied by the existing on-site water well or from a constructed holding tank, will be applied using water trucks. To prevent runoff and ponding, minimize water application rates, as necessary;
- Cover exposed stockpiled material areas with tarp or similar fabric during windy conditions (forecast or actual wind conditions of approximately 25 miles per hour or greater), apply dust control measures to haul roads to adequately control wind erosion;
- During periods of high wind, suspend excavation and grading;
- Cover all trucks hauling soil and other loose material or maintain at least 2 feet of freeboard;
- All paved roads would be kept clean of objectionable amounts of mud, dirt, or debris, as necessary. Gravel or other similar material would be used where dirt access roads intersect the paved roadways to prevent mud and dirt track-out;
- Recommend that all contractors maintain and tune engines per manufacturer's specifications to perform EPA certification levels, where applicable, and to perform at verified standards applicable to retrofit technologies;
- Recommend that contractors lease new, clean diesel burning equipment and perform periodic and unscheduled inspections to limit unnecessary idling and ensure that construction equipment is properly maintained;
- Recommend that contractors use EPA-registered particulate traps and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutions at the construction site; and
- Develop a traffic and parking management plan to minimize traffic interference and maintain traffic flow.

By implementing the above mitigation measures it is assumed that potentially significant impacts to air quality can be mitigated to a minimal or no adverse impact status.

## 6.4 Biological Resources

The following measures are required to minimize, reduce, and mitigate impacts to biological resources with implementation of the Project.

### 6.4.1 General

Preconstruction surveys will be conducted by qualified biologists according to the most current USFWS protocols, where available, by species. These surveys will include surveying mowing areas, brush clearing areas, and ground-disturbance areas within habitat deemed suitable for sensitive species by a qualified biologist. These surveys will be conducted for the presence of special status plants, noxious weeds, and general and special status wildlife species, to help prevent direct loss of vegetation and wildlife and to prevent the spread of noxious plant species.

Biological monitors will be assigned to the Project in areas of sensitive biological resources and along all utility roads used by Project personnel. The monitors will be responsible for ensuring that impacts on special status species, native vegetation, wildlife habitat, or unique resources would be avoided to the fullest extent possible. Where appropriate, monitors will flag the boundaries of areas where activities would need to be restricted to protect native plants and wildlife or special status species. Those restricted areas will be monitored to ensure their protection during construction.

### 6.4.1 Sensitive Plant Species

Spring sensitive plant species surveys will be completed along the proposed 500 kV transmission line by qualified biologist(s) prior to ground disturbing activities. Sensitive plant surveys will also be completed within the proposed solar facility area and the primary 6,000 acre relocation area. These surveys will be completed in coordination with the desert tortoise vegetation assessment that will be used to categorize the quality and quantity of the vegetation at the proposed solar facility and the 6,000 relocation area. The secondary, 2,500 acre relocation area will also be surveyed in the spring of 2012. The vegetation survey data will be used for desert tortoise relocation purposes and results submitted to the USFWS prior to relocation efforts under the BO.

### 6.4.2 Desert Tortoise

- The BIA and the BLM will ensure that the Tribe, and the Applicant will meet the terms and conditions outlined in the BO dated March 7, 2012 (See K-Road Moapa FEIS at Appendix B).

- All desert tortoises will be relocated via the BO issued by the USFWS to a 6,000 acre recipient area within the Reservation that will be preserved for either the life of the Project (option 1) or to perpetuity (option 2), per the BO. All tortoises will be monitored for five years or a period established by the USFWS and the BO. Biological monitors with experience with desert tortoise will be on-site during the construction period where impact to desert tortoise could occur (roads, transmission line ROW, etc.). See K-Road Moapa FEIS at Appendix B.

### 6.4.3 Moapa Dace

- The Moapa dace will not be directly affected by the physical construction and maintenance of the Proposed Project; however, groundwater pumping activities associated with the action are interrelated. The effects of the proposed groundwater pumping associated with the project on the Moapa dace were previously analyzed in the Programmatic Biological Opinion, which evaluated the effects of the cumulative groundwater withdrawal of 16,100 AFY from the carbonate aquifer in Coyote Spring Valley and California Wash on the endangered Moapa dace. On July 14, 2005, an MOA was signed by Southern Nevada Water Authority (SNWA), Meadow Valley Water District (MVWD), Coyote Springs Investment (CSI), Tribe, and the Service, regarding groundwater withdrawal of 16,100 afy from the regional carbonate aquifer in Coyote Spring Valley and California Wash Basins that included conservation measures for the Moapa dace. The MOA outlined specific conservation actions that each party would complete in order to minimize potential impacts to the Moapa dace should water levels decline in the Muddy River system as a result of the cumulative withdrawal of 16,100 afy of groundwater from two basins within the regional carbonate aquifer system. The Applicant is only one of multiple parties that will be withdrawing groundwater from the Coyote Spring Valley and California Wash basins under the programmatic action. The anticipated effects from this project are consistent with those anticipated in the Programmatic Biological Opinion. Per the conclusion in the USFWS BO for the Proposed Project, the use of 72AFY of the 16,100 AFY for the Proposed Project will independently have no significant impact on the Muddy River Springs area discharge and subsequently the Moapa dace. However, use of water for the Proposed Project will become part of the environmental baseline for future groundwater withdrawals for the affected aquifer.

### 6.4.4 Migratory Birds

- All transmission towers and poles will be designed to be avian-safe in accordance with the Suggested Practices for Avian Protection on Power Lines: the State of the Art in 2006 (Avian Power Line Interaction Committee [APLIC] 2006). Additionally, a post-construction bird study will be implemented to monitor for incidents of bird strikes during the operation of the Project. The scope and protocol of the post-construction surveys for the monitoring and reporting of bird strikes will be determined in consultation with USFWS. If the tubular-H design type transmission pole structures are used the horizontal member of the structure will be fitted with an inverted-Y bar to discourage perching. Similar measures will be used to deter nesting if lattice structures are utilized. The following bird and bat conservation strategy measures (see K-Road Moapa FEIS at Appendix O) will also be put into place:

Collisions

All potential collision areas of the transmission line corridor will incorporate flight diverters on the static line to make it more visible. Static lines are the smallest diameter lines, and potentially the most difficult for birds to see and avoid. Where any pole requiring guy wires is located near areas of concentrated bird activity, guy wires will be marked to increase visibility where possible. Currently, guy wire locations are not known. Bird diverters are not located on existing guy wires in the area, therefore the assumption is being made that the utility corridor does not experience concentrated bird activity. Post construction monitoring will verify or nullify this assumption. Flight diverters will be installed if collision is verified as a cause of mortality. Flight diverter types and locations would be determined through consultation with the BLM, USFWS, and/or Nevada Department of Wildlife (NDOW). The number of structures needing the use of guy wires will be kept to a minimum.

Anti-Perching and Nesting

To reduce perching along segments of the transmission line, perch deterrents will be installed during construction. Anti-perching and nesting devices are important tools for reducing the risk of avian electrocution and keeping the entire electrical system running smoothly. These deterrents also eliminate the use of transmission lines and transmission line towers as hunting perches for raptor species thus, limiting the predation of other avian species or animals which use surrounding

vegetation for foraging and nesting. Exact locations of perch deterrent poles will be determined in consultation with the USFWS prior to construction of the line.

Inspections of lines and other areas where raptor or corvids (crows and ravens) might nest along the transmission lines would be conducted annually. Non-active nests are not protected by MBTA and removal will be conducted prior to the next breeding season. Should nesting activity become a long-term issue, alternate measures to discourage nesting activities should be implemented. Prior to removing or relocating any nests, approved facility personnel or biological staff will contact USFWS and also notify the Tribe, BIA and BLM when necessary, so that proper permitting is obtained and procedures are followed.

Lighting

Lighting will be designed to provide minimum illumination needed to achieve Operation and Maintenance (O&M) objectives and not emit excessive light to the night sky by installing light absorbing shields on top of all light fixtures, and focusing desired light in a downward direction (Reed et al. 1985). This will reduce the visibility of the lights to migratory birds traveling through the area. Downward facing lights will also reduce the number of insects attracted to lights resulting in a decrease of potential concentrated feeding areas for bats. Any additional lighting needed to perform activities such as repairs will be kept to a minimum and only used when these actions are in progress.

Nest Disturbance and Territory Abandonment

A qualified biologist will conduct pre-construction nest surveys within 30 days prior to any environmental clearing activities to identify all active nests for species listed under the MBTA within the construction area, and the vegetation and habitat type in which each nest is found will be recorded. Environmental clearance activities will be performed primarily before the onset of Phase I construction; however, environmental monitors would be in place during the entire construction period to minimize impacts to natural resources. During the environmental clearance stage trained biologists will relocate bird nests only after young have fledged and perform any mitigation measures necessary to reduce or eliminate negative effects on wildlife species inhabiting the construction area. Activities associated with removal or relocation of nests will be regulated by the USFWS under the MBTA.

All vegetation clearing and ground scraping activities will be conducted outside the migratory bird nesting season when practical. 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 will cover all potential nesting habitat in and within 300 feet of the area to be disturbed. Any disturbance or harm to active nests will be reported within 24 hours to the USFWS, BIA and the BLM, if on BLM lands. 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.

Evaporation Pond

The Reverse Osmosis (RO) water filtration process utilized for O&M actives will accumulate approximately 4.2 AFY of discharge that will be temporarily held in an on-site evaporation pond properly sized for the Project's operations. The RO process will accumulate organic chemicals that could potentially harm birds or bats if used as a water source. The pond will be covered with bird proof netting to eliminate avian and bat use of the evaporation pond. Reporting responsibilities are outlined in the Bird and Bat Conservation Strategy (see K-Road Moapa FEIS at Appendix O).

General Housekeeping

To minimize activities that attract prey and predators during construction and operations, garbage will be placed in approved containers with lids and removed promptly to an approved offsite facility when full to avoid creating attractive nuisances for birds and bats. Open containers that may collect rain water will also be removed or stored in a secure or covered location to not attract birds.

Monitoring

The construction of this Project would be completed in three phases. Each phase of construction will be monitored closely for three years after completion, based on USFWS protocol, in order to determine whether the mitigation measures being used are effective or if they need to be adapted to better fit the needs of the Project. Monitoring periods could be extended if proper progress is not being made in reduction or elimination of avian and bat related incidents.

- A qualified biologist will conduct pre-construction surveys within 30 days prior to construction for Western Burrowing Owl within suitable habitat prior to breeding season (February 1 through August 31). All areas within 250 feet of the Project will be surveyed, per USFWS 2007 Burrowing Owl guidance.
- If an active nest is identified, there will be no construction activities within 250 feet of the nest location to prevent disturbance until the chicks have fledged, as determined by a qualified biologist.
- The occurrence and location of any Western Burrowing Owl will be documented by biological monitors in daily reports and submitted to the authorized biologist on a daily basis. The authorized biologist will report all incidents of disturbance or harm to Burrowing Owls within 24 hours to the USFWS.
- A Worker Environmental Awareness Program (WEAP) will be developed and implemented. All construction crews and contractors will be required to participate in WEAP training prior to starting work on the Project. The WEAP training would include a review of the special status species and other sensitive resources that could exist in the Project, the locations of sensitive biological resources and their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all trained personnel will be maintained.
- Vehicles and equipment will be cleaned of soil and plant material prior to entering and leaving the work site to minimize the introduction and spread of weeds. A wash station is proposed at the entrance/exit to the Reservation via Las Vegas Boulevard.

#### 6.4.5 Gila Monster

Field workers and personnel will be trained to: (1) identify Gila monsters and be able to distinguish it from other lizards such as chuckwallas and western banded geckos; (2) report any observations of Gila monsters to the NDOW; (3) be alerted to the consequences of a Gila monster bite resulting from carelessness or unnecessary harassment; and (4) be aware of protective measures provided under state law.

Live Gila monsters found in harm's way on the construction site will be captured and then detained in a cool, shaded environment (<85°F) by the project biologist or equivalent personnel until a USFWS biologist can arrive for documentation, marking and obtaining biological measurements and samples prior to releasing. A clean 5-gallon plastic bucket with a secure, vented lid; an 18" x 18" x 4" plastic sweater box with a secure, vented lid; or a tape-sealed

cardboard box of similar dimension may be used for safe containment. Additionally, written information identifying the mapped capture location, GPS coordinates in Universal Transverse Mercator (UTM) using the North American Datum (NAD) 83 Zone 11. Date, time, and circumstances (e.g., biological survey or construction) and habitat description (vegetation, slope, aspect, substrate) will also be provided to NDOW.

Injuries to Gila monsters may occur during excavation, road grading, or other construction activities. In the event a Gila monster is injured, it will be transferred to a veterinarian proficient in reptile medicine for evaluation of appropriate treatment. Rehabilitation or euthanasia expenses will not be covered by NDOW. However, NDOW will be immediately notified of any injury to a Gila monster and which a veterinarian is providing care for the animal. If an animal is killed or found dead, the carcass will be immediately frozen and transferred to NDOW with a complete written description of the discovery and circumstances, date, time, habitat, and mapped location (GPS coordinates in UTM using NAD 83 Zone 11). NDOW and BLM will be immediately notified if any injury or death occurs to a Gila Monster on BLM lands. The BIA, Tribe and USFWS will be notified for injuries or death of the species on tribal lands.

Should state or federal wildlife agency assistance be delayed, biological or equivalent acting personnel on site should detain the Gila monster out of harm's way until NDOW or USFWS personnel can respond. The Gila monster should be detained until NDOW or USFWS biologists have responded. Should agency personnel not be immediately available to respond for photo-documentation, a digital (5 mega-pixle or higher) or 35mm camera will be used to take good quality images of the Gila monster in situ at the location of live encounter or dead salvage. The pictures will be provided to NDOW along with specific location information including GPS coordinates, date, time and habitat description. Pictures will show the following information: (1) Encounter location (landscape with Gila monster in clear view); (2) a clear overhead shot of the entire body with a ruler next to it for scale (Gila monster should fill camera's field of view and be in sharp focus); (3) a clear, overhead close-up of the head (head should fill camera's field of view and be in sharp focus).

### 6.5 Cultural Resources

It was determined through the National Historic Preservation Act consultation process and through field surveys that the Project could result in impacts to the prehistoric lithic scatter (26CK9415) that was found in an open sandy flat on tribal lands. It consisted of a scatter of red

and butterscotch chert debitage, two biface fragments and two broken points. It is reasonable to anticipate detrimental effects to this resource as a result of construction equipment or unauthorized 'off-ROW' driving. Impacts to this resource will be eliminated by implementing the following mitigation:

- Prior to construction, authorized personnel will flag and rope off the designated area so that no impacts occur.
- During construction near the known site, an archaeological monitor will be in place to ensure no direct or indirect effects take place at the recorded site.
- Should any unrecorded cultural resources be discovered during construction, all activities within the immediate area of discovery shall cease. The Chairman of the Moapa Tribal Council and the BIA Regional Archeologist shall be notified immediately and will make arrangements to assess the nature of the discovered cultural resources and mitigate any damages to any unanticipated discoveries. The BLM archeologists should be notified of discovery of cultural resources on BLM lands.

By implementing the above mitigation measures it is assumed that potentially adverse effects to cultural resources can be mitigated to a minimal or no adverse impact status.

### 6.6 Transportation

It was determined in the EIS process that the Project will result in short-term effects on traffic volume and will not adversely affect traffic flow at intersections during peak construction. Given the high numbers of vehicle trips per day (maximum of 876) along with the movement of heavy construction equipment, it is reasonable to anticipate that construction of the Project could damage public roads through increased use. It is anticipated that short-term impacts to roads during construction could be reduced by implementing the following mitigation:

- Before construction, the Applicant, a BIA representative, a BLM representative and a tribal representative will document the condition of the access route, noting any pre-construction damage. After construction, any damage to public roads will be repaired to the road's pre-construction condition, as determined by the local representative.
- The Applicant will produce a Traffic Management Plan that identifies BMPs to minimize concurrent construction-related traffic impacts. The Traffic Management Plan will include the following:

- Deliveries of materials will be scheduled for off-peak hours, when practical, to reduce effects during periods of peak traffic;
- Truck traffic will be phased throughout construction, as much as practical; and
- Promote carpooling or mass transportation options.

By implementing the above mitigation measures it is assumed that potentially significant impacts to transportation can be mitigated to a minimal or no adverse impact status.

6.7 Public Health & Safety

The potential for human and natural resource exposure to potentially hazardous substances would be a significant impact of the Project if not addressed adequately. The potential for exposure exists during transportation of materials, direct handling of substances, inadvertent release of hazardous material to the soil and groundwater, and general fire and electrical hazards. By implementing the following plans and regulations, as well as plans like the SPCC, previously discussed, the Applicant intends to reduce significant impact to public health and safety.

**General Design and Construction Standards**

The Applicant will design the Project in accordance with federal and industrial standards including the American Society of Mechanical Engineers (ASME), National Electrical Safety Code (NESC), International Energy Conservation Code (IECC), International Building Code (IBC), Uniform Plumbing Code (UPC), Uniform Mechanical Code (UMC), the National Fire Protection Association (NFPA) standards, and OSHA regulations.

**Health and Safety Program**

The Applicant will require all employees and contractors to adhere to appropriate health and safety plans and emergency response plans. All contractors will be required to maintain and carry health and safety materials including the Material Safety Data Sheets (MSDS) of hazardous materials used on site.

**Emergency Response Plan**

The Applicant will prepare an Emergency Response Plan prior to construction activities based on the results of a comprehensive facility hazard analysis. The Emergency Response Plan will assign

roles and actions for on-site personnel and responders and would designate assembly areas and response actions.

**Hazardous Waste Storage Plan**

The Applicant will prepare a Hazardous Waste Storage Plan prior to construction activities that will describe the storage, transportation, and handling of wastes and emphasize the recycling of construction wastes where possible.

Implementation of the above programs, plans, and regulatory policies will result in successful mitigation to adequately minimize or eliminate significant impacts to the construction, operation and maintenance, and decommissioning of the Project.

### 6.8 Mitigations Measures Not Adopted

All mitigation measures discussed and recommended by state and federal agencies and the cooperating agencies were adopted for this Project.

### 6.9 Mitigation Compliance Monitoring and Reporting

All mitigation measures and Plans discussed in the FEIS will be implemented by the Applicant and monitored by a third party. Third party monitors will report to the proper agencies as outlined in the Plans, specifically, or directly to the BIA and BLM as determined by the lease and ROW agreements. Reporting procedures will be determined prior to onset of construction activities.

## 7. PUBLIC INVOLVEMENT

7.1 Public Scoping Period

On February 4, 2011, the BIA published the Notice of Intent (NOI) to prepare an EIS for the K Road Moapa Solar Generation Facility in Clark County, Nevada in the Federal Register, 76 Fed. Reg. 6493 (Feb. 4, 2011). The NOI announced a public scoping period for soliciting comments on alternatives, issues, impacts, and planning criteria. The 30-day scoping period for the Project was initiated by the NOI and was completed on March 7, 2011.

The BIA identified significant issues to be covered during the scoping process as, but not limited to: air quality, geology and soils, surface and groundwater resources, biological resources,

threatened and endangered species, cultural resources, socioeconomic conditions, land use, aesthetics, environmental justice, and Indian trust resources. In addition, BIA sent out 49 NOI letters to federal, state, and local agencies, as well as individuals or organizations that were interested or may be affected by the Project requesting their participation in the scoping process and, if eligible, participate as a cooperating agency.

7.2 Scoping Meetings

The BIA, the BLM, and the Tribe held two public scoping meetings near the Proposed Project location during the initial 30-day scoping period for the Project. Meeting locations, dates, and numbers of attendees are provided below:

| **Location** | **Date** | **No. of Attendees** |
|---|---|---|
| Moapa Reservation Tribal Hall | Feb. 23, 2011 | 29 |
| BLM Las Vegas Field Office | Feb. 24, 2011 | 27 |

Commenters' concerns included:

- Impacts to vegetation and resultant stormwater runoff
- Potential impacts to rare plant species
- Impacts from cumulative projects in the vicinity of the Project
- Impacts to ephemeral streams or desert washes pertaining to water quality and habitat
- Viable alternatives to the Project
- Impacts to air quality as a result of construction and operations
- Project impacts and cumulative impacts to desert tortoise

7.3 Draft EIS Preparation and Distribution

On November 25, 2011, the BIA published the Notice of Availability (NOA) for the K Road Moapa Solar Generation Facility DEIS in Clark County, Nevada in the Federal Register, Vol. 76 No. 227 (Nov. 25, 2011). The NOA announced the 45 day public review period for the DEIS. The 45-day review period for the Project was concluded on January 9, 2012.

The DEIS was available on the project Website (http://projects2.pirnie.com/MoapaSolar/), via link on the BIA and BLM websites and hard copies at the BIA Western Regional Office Branch of Environmental Quality Services, 2600 North Central Avenue, 12th Floor, Suite 210, Phoenix, AZ 85004–3008, the BIA Southern Paiute Agency in St. George, UT, and the BLM Southern Nevada District office in Las Vegas, NV. In addition, a copy was sent, at their request, to any party who wished to provide comments to the DEIS and/or requested that they be added to the mailing list. Further, BIA acknowledged in the Federal Register and within local papers (Moapa Review and Las Vegas Review Journal) that the DEIS was publicly available.

7.4 Final EIS Preparation and Distribution

On March 16, 2012 the BIA published the NOA for the K Road Moapa Solar Generation Facility FEIS in Clark County, Nevada in the Federal Register, Vol. 77 No. 52 (March. 16, 2012). The NOA announced the public availability of the FEIS. The 30-day notice was initiated by the NOA and was concluded on April 16, 2012.

The FEIS was made available on the project Website (http://projects2.pirnie.com/MoapaSolar/), via link on the BIA and BLM websites and hard copies at the BIA Western Regional Office Branch of Environmental Quality Services, 2600 North Central Avenue, 12th Floor, Suite 210, Phoenix, AZ 85004–3008, the BIA Southern Paiute Agency in St. George, UT and the BLM Southern Nevada District office in Las Vegas, NV. In addition, a copy was sent, at their request, to any party who provided comments on the DEIS and/or requested that they be added to the mailing list. Further, BIA acknowledged in the Federal Register and within local papers (Moapa Review and Las Vegas Review Journal) that the FEIS was publicly available. The FEIS took into account and addressed all public comments received from the DEIS.

Comments on the FEIS were received from the Center for Biological Diversity and the EPA Region 9 and are addressed in this ROD (see Attachment B).

## 8. Decision Rationale

The BIA and BLM have identified the Proposed Project as the Selected Alternative. Overall, the Selected Alternative will accomplish the purpose and need for the federal action, and help in fulfilling BIA's and the BLM's statutory missions and responsibilities, given consideration to economic, environmental, and technical factors. The Project location and the use of PV technology

will minimize adverse environmental impacts. The chosen PV panels typically sit 4 to 7 feet off the ground and have minimal visibility from a distance. The PV technology also minimizes the use of water resources – 72 acre feet per year (AFY) during construction. PV consumes no water in operations and uses insignificant amounts of water for cleaning modules (20 to 40 AFY), which occurs approximately 2 to 4 times per year. The PV technology has relatively few moving parts and, therefore, does not create a noticeable noise impact. PV also is considered a "proven technology," and represents a less expensive solar technology when compared to other CST or CPV.

The Project also supports the President's New Energy for America Plan, which sets a target of ensuring that 10% of United States electricity is generated from renewable sources by 2012, rising to 25% by 2025. Also, Secretarial Order 3285 issued by the Secretary of the Interior (March 11, 2009, as amended February 22, 2010) encourages the production, development, and delivery of renewable energy as one of the DOI's highest priorities.

The Project also will assist utilities in meeting their renewable energy goals by providing clean renewable electricity generated from the solar resources that may be efficiently connected to existing transmission lines in a manner that minimizes adverse site impacts.

The Project will support the States of Nevada and California's established RPS for utilities, helping to meet their renewable energy goals of 25 percent and 33 percent, respectively. The Project's scale, technology, and location have been selected to provide substantial amounts of renewable energy to regional utility customers that reside in areas that are not suitable for solar development. The Project is designed to provide solar power to utilities at a price that is competitive with other renewable sources of power.

## 8.1 BLM Directive

The BLM, after careful consideration of the potential effects of the proposed project, has decided to authorize K Road's request for a 500kV transmission line ROW and an access road ROW as described in the proposed action of the FEIS, including all associated facilities needed for the construction, operation, maintenance, and termination. The transmission line and access road would be located in an existing utility corridor reserved to the BLM under Public Law 96-491-Dec. 2, 1980. The mitigation measures and BMP's identified in the FEIS will be incorporated into the ROW grant as well as BLM's standard ROW stipulations.

The authorization of the transmission line and access road responds the BLM's purpose and need reply to K Road's ROW application for a transmission line and access road and to determine whether to approve, approve with modification, or deny the issuance of a ROW/Lease grant taking into consideration the provisions of the Energy Policy Act of 2005 and other applicable Federal laws, regulations, and policies.

8.2 BIA Directive

The BIA has determined that the Lease and associated agreements are in the best interest of the Tribe. The Project will create economic development opportunity for the Tribe, provide lease income as a revenue source for the Tribe, create new jobs and employment opportunities for Tribal members, develop sustainable renewable resources, and provide other benefits, such as connection of the Travel Plaza to the electric grid. The Project offers significant economic development potential and other benefits for the Tribe by using the Tribe's solar resources. Once the Project is complete the Tribe will have an option to purchase, own, and operate the Project and, as situated, the facility creates an opportunity to bring utility scale power to the Tribe for future use as stated below:

- The Project site is in close proximity to the Tribe's Travel Plaza. The development of a utility scale power Project in proximity to the Travel Plaza would enable the supply of reliable utility grade electric power to the Travel Plaza by accessing the Project's interconnection with the grid.
- Without access to the utility grid, the Travel Plaza has had to run on-site diesel generators to generate electricity, which produces air emissions and limits further development of the travel plaza.
- The Project will establish an opportunity for utility connection along with added economic and employment benefits for the Tribe by supporting potential further development of their Travel Plaza.

The Project location allows efficient connection of the energy from solar resources to existing transmission infrastructure. The selected site is well positioned to minimize further use and impact to additional land needed for transmission generation to tie into the existing transmission infrastructure, including the Crystal substation. The selected site is adjacent to an existing transmission corridor that has a direct path to the Crystal substation. The Crystal substation itself lies within 5.00 miles of the Project's northwest boundary. Existing transmission lines from the

Crystal substation extend to highly populated areas. The nearby existing transmission infrastructure has available capacity to carry the Project's output to market.

The solar facility is located upon a mesa and is not affected by mountain stormwater drainage. The dry washes located on site are a result of surface sheet flow and are not listed as within FEMA 100 or 500 year flood zones. These drainages are not jurisdictional waters of the United States. The site is adjacent to the Union Pacific Railroad and an existing improved access road with direct access to I-15. The site is visually elevated and reduces aesthetic impacts from most human viewpoints in the surrounding area. The Project area has been recently studied and reviewed in the past for energy and non-energy projects and has been documented as having no cultural resource issues, minimal sensitive plant issues, and moderate wildlife issues.

The Project does not interfere with day-to-day tribal life and does not interfere with the Tribe's plans for other economic development initiatives.

### 8.2.1 Analysis of Required Factors

The BIA has chosen the Selected Alternative (Proposed Action Alternative) due to minimal short term and long term adverse impacts, beneficial long term impacts for the Tribe, and the fact that no significant unmitigated impacts would occur. Adequate consideration has been given of the five approval criteria under 25 U.S.C. §415(a), as follows:

1. The relationship between the use of the leased premises and the use of the neighboring lands.

   The BIA and the Tribe chose the Selected Alternative (Proposed Action Alternative) after examining several alternative sites on the Reservation as well as alternative technologies. Alternative sites and technologies were eliminated from further consideration based on human and natural resource factors as discussed in the FEIS.

2. The height, quality, and safety of any structures or other facilities to be constructed on the leased premises.

   The chosen PV technology will have a lower overall height than the alternative solar technologies (CSP, Thermal Tower, etc.). A fire protection system will be installed as well as a 20-feet wide fire break around the solar facility. All structures

will adhere to Clark County standards and sub-contractor health and safety plans will be required.

3. The availability of police and fire protection, utilities, and other essential community services.

   The FEIS shows that there will be no significant impact on utilities and other community services. In addition to on-site fire protection systems, Clark County is responsible for providing firefighting capability on the Reservation and law enforcement will be managed by the Moapa Tribal Police Department.

4. The availability of judicial forums for all criminal and civil matter arising on the leased premises.

   The Lease (section 29.17) provides that any claims/actions under the Lease will be adjudicated in district court in Nevada. Claims and actions arising on the leased premises, but not under the Lease, will be adjudicated in the appropriate tribal, federal, or state court.

5. The effect on the environment of the proposed land use.

   All relevant environmental impacts have been fully addressed in the FEIS.

## 9. Final Agency Action

9.1 Bureau of Indian Affairs

It is my decision to approve, subject to the terms, conditions, stipulations, and environmental protection measures developed by DOI, BIA, and BLM, and reflected in this ROD one solar energy ground lease and associated transmission line easements and access road ROW on tribal trust lands to K Road Moapa Solar LLC. This decision is effective on the date this ROD is signed.

Approved By:

6/19/12

Michael S. Black — Date

Director
Bureau of Indian Affairs

9.2 Bureau of Land Management

It is my decision to approve, subject to the terms, conditions, stipulations, and environmental protection measures developed by DOI, BIA, and BLM, and reflected in this ROD, two ROW grants to K Road Moapa Solar LLC for an up to 500 kV transmission line and access road within a BLM-administered utility corridor and on BLM land. This decision is effective on the date this ROD is signed.

Approved By:

6/20/2012

Michael J. Pool — Date

Acting Director
Bureau of Land Management

## 10. Secretarial Approval

I hereby approve these decisions. My approval of these decisions constitutes the final decision of the DOI and, in accordance with the regulations at 43 CFR §§ 4.331(b), 4.410(a)(3), is not subject to appeal under departmental regulations at 43 CFR 4. Any challenge to these decisions, including the BLM Authorized Officer's issuance of the ROW and the BIA Authorized Officer's approval of the lease and associated ROW's as approved by this decision, must be brought in the federal district court.

Approved by:

Ken Salazar

Ken Salazar
Secretary
U.S. Department of the Interior

6/21/2012
Date

## 11. References

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