

SOLAR POWER PROJECT BRIEFING PAPER
FOR THE OFFICE OF THE SECRETARY DEPARTMENT OF THE INTERIOR

State Office: California State Office Serial Number: CACA 48668, 49502, 49503, 49504

Project Name: Ivanpah Solar Electric Generating System (ISEGS)

Field Offices and Counties involved: Needles Field Office, San Bernardino County, California

The California Energy Commission (CEC): The CEC issued its Decision to approve on 9/8/10.

Other agencies part of the project and/or decision: U.S. Department of Energy, U.S. Fish and Wildlife Service, California Energy Commission, California Department of Fish and Game

Summary of Preferred Alternative

BrightSource Energy Partners submitted four applications to the Bureau of Land Management (BLM) for development of the proposed ISEGS project, a concentrated thermal solar power tower facility capable of generating approximately 370 megawatts (MW) of solar power. *See attached maps.* The four applications were filed by Solar Partners I, II, IV and VIII, LLCs, all subsidiaries of BrightSource Energy. The project includes three independent power generation units each with a central power tower and circular arrays of heliostats surrounding the tower. The fourth unit includes ancillary facilities common to all three power generation units. Each unit would be authorized by separate right-of-way (ROW) grants, with a total combined area of approximately 3,462 acres on BLM-managed lands.

Summary of Technology

The ISEGS project utilizes power tower solar technology. Heliostat mirror fields focus solar energy on power tower receivers near the center of each mirror array. This concentrated solar power heats up water stored in the receiver boiler, which ultimately operates a steam-turbine generator to produce electricity. The final ISEGS design calls for three separate 459-foot power generating towers, each surrounded by a field of heliostats. In total there will be 173,500 heliostats. Each of the three proposed power towers and heliostat fields will be constructed at approximately the same time with surfacing disturbing activities at all areas within the first 6 months after the decision.

Summary of Transmission

The project will include construction of a new substation on public land and upgrading and reconstruction of 36 miles of existing Southern California Edison transmission line. Southern California Edison has proposed the Eldorado Ivanpah Transmission Project on BLM and private lands that is being analyzed in a separate joint analysis with the California Public Utilities Commission.

Summary of Process

The Environmental Impact Statement (EIS) considered four alternatives, including:

1. Proponent Proposed Action (4,073 acres, 400 MW)
2. Modified I-15 Alternative (like Mitigated Alternative, with shift in project footprint near I-15 to avoid potential desert tortoise habitat)
3. Mitigated Alternative 3 (3,564 acres, 370 MW) (*BLM Preferred Alternative*)
4. No Action Alternative

Important dates for this project are as follows:

- 11/6/2007: Publication of Notice of Intent
- 1/4 and 1/25/2008: Public Scoping Meetings in Primm, NV
- 11/10/2009: Notice of Availability Draft EIS; 90-day public comment period

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- 04/16/2010: Notice of Availability and Supplemental Draft EIS; 45-day comment period
- 08/06/2010: Notice of Availability and Final EIS; begin protest period

Following publication of the final EIS, the BLM received timely six protests on its decision to amend the California Desert Conservation Area (CDCA) Plan. The protestors included the Native American Heritage Council, Desert Tortoise Council, Jared Fuller, The Center for Biological Diversity, Basin and Range Watch and a joint protest from Defenders of Wildlife/Natural Resources Defense Council/Sierra Club, and The Wilderness Society.

In addition, during the 30-day comment period that was concurrent with the protest period, the BLM received 18 comments. Similar issues were raised in the comments on the FEIS that were raised in comments submitted on the DEIS. Responses to comments can be found as an appendix to the Record of Decision (ROD).

Summary of Protests

Seven parties submitted letters protesting the Ivanpah Proposed Plan Amendment/FEIS. Two parties submitted incomplete protests, and four of the remaining five letters contained at least one valid protest issue.

Issues raised in the letters include the following:

- NEPA – Reasonable range of alternatives, cumulative impacts, baseline data, and response to public comments
- FLPMA – Consistency with the BLM’s multiple use mandate
- CDCA – Consistency with the Multiple Use Class – Limited designation and specific management principles of the CDCA plan
- Cultural Resources and Tribal Consultation – Consideration of a site important to the Chemehuevi Tribe
- Wildlife and Plants – Compliance with BLM Policy for Special Status Species management and Section 7 of the Endangered Species Act

Based on our analysis, the BLM has determined that this plan complies with applicable law, regulation, and policy. Thus, no changes were needed to the CDCA Plan amendment decision, and the protests were denied.

Summary of Major Issues

Following public meetings, the receipt of approximately 36 letters and thousands of form email comments from a variety of concerned individuals, environmental groups, unions, local government, and other federal agencies, the BLM identified the main concerns regarding this project as follows:

1. Biological Resources: Inventories found approximately 25 resident desert tortoise, an endangered species under the federal Endangered Species Act, on the proposed project site. All desert tortoises will be tested for disease, translocated off-site, and monitored pursuant to a Fish and Wildlife Service (FWS)-approved plan. Compensation for lost habitat is required

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by BLM and the FWS on a 1:1 basis. The FWS Biological Opinion will be attached as an appendix to the ROD and all terms and conditions are attached to the ROW grant. In addition, a BLM-sensitive plant species, the White-Margin Beardtongue Penstemon, occurs on the project site. The plants will be avoided by project design.

2. Cultural Resources: Consultation occurred with federally-recognized Indian tribes and with the California State Historic Preservation Office in accordance with the National Historic Preservation Act, the Native American Graves Protection and Repatriation, the American Indian Religious Freedom Act, and the Sacred Sites Executive Order 13007, as appropriate. The BLM has prepared a Programmatic Agreement (PA) in consultation with the Advisory Council for Historic Preservation, State Historic Preservation Office (SHPO), California Energy Commission (CEC), and interested tribes (including tribal governments as part of government-to-government consultation) to establish a process for consultation, review, and compliance with the National Historic Preservation Act. Archaeological surface surveys of the proposed project area have been completed, and the BLM determined the only adverse affect to Historic cultural resources would be the impact to the existing historic transmission line passing through the project site. The PA will be attached as an appendix to the ROD.
3. Stormwater Impacts: The project is located on an alluvial fan subject to flooding, and impacts to waters of the State and/or waters of the United States from erosion and sedimentation are probable. The applicant created a low-impact design, leaving much of the vegetation intact to minimize disturbance and reduce erosion and sedimentation.
4. Visual Impacts: Reflective glare from power towers will have an undetermined impact to future flight operations if the Southern Nevada Supplement Airport is constructed and would be a distractive nuisance to motorists on I-15 passing by the project. Mitigation identified in the Final EIS requires reducing reflective glare by treating surfaces to minimize reflective light.

Summary of Mitigation Measures and Monitoring

A number of measures will be implemented to void, minimize, rectify, reduce, or compensate for adverse impacts of the ISEGS project. In addition to those measures discussed above, the principal mitigation measures include:

- **Air Quality**: Prepare dust control plans and monitor construction activities. Strictly enforce emission standards for all facility equipment.
- **Biological**: Re-vegetate all areas of short term disturbance. Conduct monitoring for avian and bat mortalities. Monitor and control noxious weeds.
- **Noise**: Implement a noise control program and noise monitoring plan to enforce noise level restrictions. Follow construction time restrictions.
- **Soil and Water**: Implement drainage, erosion, and sediment control plans. Monitor site after stormwater events for scour, debris buildup, and respond to problems in established timeframes. Meter groundwater usage and monitor groundwater levels. Do not allow wastewater to be collected on the site.
- **Traffic**: Prepare and implement a traffic control plan. Follow lighting requirements imposed by the Federal Aviation Administration on towers.

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- Recreation: Reroute open routes cut off by the project around project on maintenance roads.
- Construction and Operation: the CEC requires strict Conditions of Certification for Worker Safety, Electric Transmission Engineering, Facility Design and Power Plant Engineering, and Powerplant Reliability. In addition, CEC enforces conditions for compliance with all State and local government building codes.

Summary of Project Costs

- ISEGS represents approximately \$1.37 billion in project costs.
- The company has secured a Department of Energy (DOE) loan guarantee, which provides 80% of project costs – this equals \$1.096 billion.
- The company will get 30% of \$1.096 billion in grant funding – this equals \$328.8 million.
- Imperial Valley Solar, LLC will then be responsible for paying back \$767.2 million in loans.
- Initial Base Rental (for Oct, Nov and Dec, 2010) and bonding amounts are as follows:
 - Ivanpah 1 - \$19,131 (1st year); bond \$1,300,000
 - Ivanpah 2 - \$22,533 (1st year); bond \$1,510,000
 - Ivanpah 3 - \$25,848 (1st year); no bond required
 - Ivanpah 4 - \$5,147 (1st year); bond \$350,000
- Annual Base Rental (January through December 2011) will be \$435,863.
- Total Reclamation Cost Estimate is \$21,000,000, and increased bonding will be required as construction progress proceeds.

Summary of Potential Project Benefits

Approval, construction and operation of this project are anticipated to create a number of benefits in the public interest, including, but not limited to:

- Renewable Power Supply: The 370 MW of power is estimated to power 140,000 homes.
- Job Creation: Estimated creation of 1,000 temporary jobs at peak construction and 86 permanent operations and maintenance positions.
- Revenue Generation: The plant will generate approximately \$250 million in construction salaries and \$400 million in State and local tax benefits over a 30-year project life.

Summary of Cooperating Agency Actions

1. The California Energy Commission has joint permitting authority on large-scale solar thermal energy projects in California. The CEC has processed BrightSource's Application for Certification of this project pursuant to the California Environmental Quality Act, and issued a license on September 22, 2010.
2. The U.S. Fish and Wildlife Service has provided formal consultation on this project, pursuant to Section 7 of the Endangered Species Act, and issued a Biological Opinion regarding potential impacts to desert tortoise on October 1, 2010.
3. The State Historic Preservation Officer has reviewed this project under Section 106 of the National Historic Preservation Act, and issued a cultural Programmatic Agreement to address potential impacts to cultural resources on this site on September 22, 2010.

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4. The U.S. Department of Energy has given tentative approval to Federal Loan Guarantees in the amount of \$1.37 billion, contingent upon the applicant receiving ROW authorizations from BLM and a license from the CEC.
5. U.S. Army Corps of Engineers rendered a final opinion on May 28, 2009 concluding that the project does not affect waters of the U.S.
6. The National Park Service manages the Mojave National Preserve (MNP), which is located near the proposed project area. Because of the proximity of the MNP, the Park Service was invited to participate in scoping meetings and public workshops, and has been provided the opportunity review and provide comment on the EIS.

DECISION MEMORANDUM FOR THE SECRETARY

FROM: Mike Pool
Deputy Director, Bureau of Land Management

SUBJECT: Record of Decision – Ivanpah Solar Project (CA)

INTRODUCTION

BrightSource Energy Partners submitted four applications to the Bureau of Land Management (BLM) for development of the proposed Ivanpah Solar Electric Generating System (ISEGS) project located in San Bernardino County, CA. The ISEGS project is a concentrated thermal solar power tower facility capable of generating approximately 370 megawatts (MW) of solar power. The four applications were filed by Solar Partners I, II, IV and VIII, LLCs, all subsidiaries of BrightSource Energy. The project includes three independent power generation units each with a central power tower and circular arrays of heliostats surrounding the tower. The fourth unit includes ancillary facilities common to all three power generation units. Each unit would be authorized by separate right-of-way (ROW) leases/grants, with a total combined area of approximately 3,462 acres on BLM-managed lands.

BACKGROUND

The ISEGS project utilizes power tower solar technology. Heliostat mirror fields focus solar energy on power tower receivers near the center of each mirror array. This concentrated solar power heats up water stored in the receiver boiler, which ultimately operates a steam-turbine generator to produce electricity. The final ISEGS design calls for three separate 459-foot power generating towers, each surrounded by a field of heliostats. In total there will be 173,500 heliostats. Each of the three proposed power towers and heliostat fields will be constructed at approximately the same time with surfacing disturbing activities at all areas within the first 6 months after the decision. The project will include construction of a new substation on public land and upgrading and reconstruction of 36 miles of existing Southern California Edison transmission line. Southern California Edison has proposed the Eldorado Ivanpah Transmission Project on BLM and private lands that is being analyzed in a separate joint analysis with the California Public Utilities Commission.

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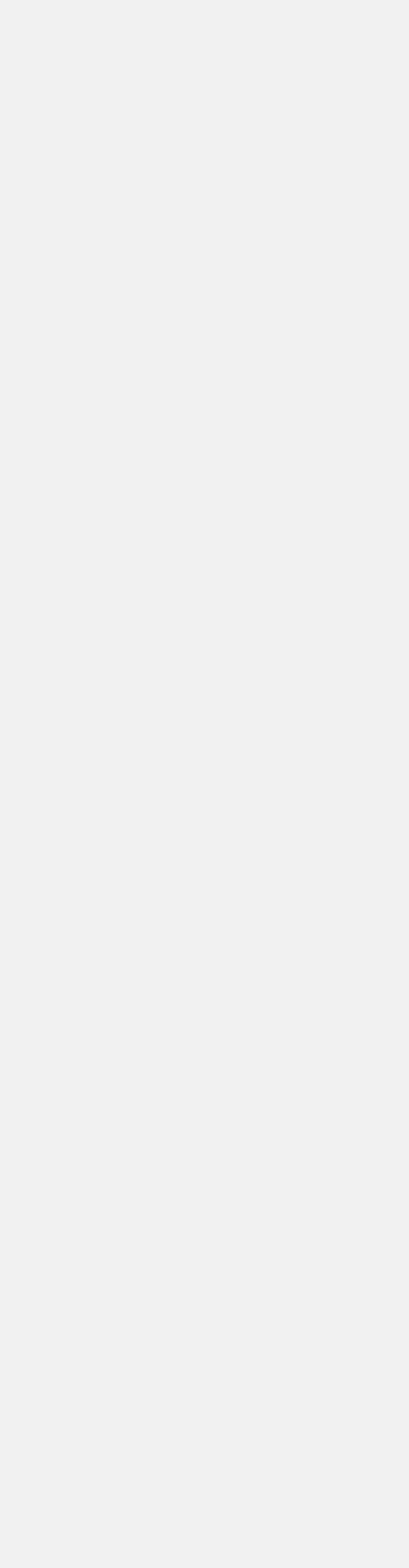
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1.0 Executive Summary

1.1 Introduction

The proposed action evaluated within this Environmental Impact Statement (EIS) is the construction and operation of the Ivanpah Solar Electric Generating System (ISEGS) project, a proposed solar-thermal electricity generation facility located on public lands managed by the Bureau of Land Management (BLM) in San Bernardino County, California. The EIS represents the environmental review document developed by the BLM to evaluate potential impacts associated with the proposed action. The EIS also functions as the environmental evaluation of a proposed amendment to BLM's California Desert Conservation Area (CDCA) Plan, which would identify the ISEGS site within the Plan.

Solar Partners I, LLC; Solar Partners II, LLC; Solar Partners IV, LLC; and Solar Partners VIII, LLC, which are subsidiaries of BrightSource Energy, Inc. (applicant or BrightSource Energy), filed an Application for Certification (AFC) (07-AFC-5) for the proposed ISEGS. The proposed ISEGS project and related facilities are under the Energy Commission's jurisdiction and require certification by the California Energy Commission to operate the facility. As the proposed project would be located on public land, BrightSource Energy has also filed an application to BLM for a land use Right-of-Way pursuant to the Federal Land Policy and Management Act (FLPMA). Under FLPMA Title V (Rights-of-Way), the Secretary of Interior is authorized to grant rights-of-way for the purpose of allowing systems for generation, transmission, and distribution of electric energy. BrightSource Energy has also applied to the U.S. Department of Energy (DOE) for a loan guarantee pursuant to Title XVII of the Energy Policy Act. The project would be developed in three phases, known as Ivanpah 1, 2, and 3. The application for a loan guarantee for Ivanpah 1 was made in November 2008, and the application for Ivanpah 2 and 3 was made in February 2009. BrightSource Energy has also applied to the U.S. Treasury Department for Payments for Specified Energy Property in Lieu of Tax Credits under §1603 of the American Recovery and Reinvestment Act of 2009 (Public Law 111-5). This program offers a grant (in lieu of investment tax credit) to receive funding for 30% of the total capital cost at such time as a project achieves commercial operation (currently applies to projects that begin construction by December 31, 2010 and begin commercial operation before January 1, 2017). Pursuant to Treasury Department guidance ("Payments for Specified Energy Property in Lieu of Tax Credits under the American Recovery and Reinvestment Act of 2009", U.S. Treasury Department Office of the Fiscal Assistant Secretary, July 2009/ Revised March 2010) a Section 1603 payment with respect to specified energy property does not make the property subject to the requirements of National Environmental Policy Act (NEPA) and similar laws.

This EIS examines the environmental and public health and safety aspects of the proposed project, based on the information provided by the applicant, that received through public comment, and that received from other sources available at the time the EIS was prepared. The EIS contains analyses required as part of an EIS prepared under the NEPA.

BLM is the lead agency for the NEPA review of the proposed Right-of-Way and associated CDCA Plan Amendment. In August, 2007, the California Energy Commission (Energy Commission) and BLM California State Office entered into a Memorandum of Understanding (MOU) to jointly develop the environmental analysis documentation for solar thermal projects which are under the jurisdiction of both agencies. The purpose of the MOU is to avoid duplication of the agency efforts, share the agency's expertise and information, promote intergovernmental coordination, and facilitate public review. On November 4, 2009, the BLM and California Energy Commission (Energy Commission) staff jointly prepared the Final Staff Assessment (FSA)/Draft Environmental Impact Statement (DEIS) and Draft CDCA Plan Amendment for the ISEGS project. The Notice of Availability of the DEIS was published on November 10, 2009; the 90-day public review and comment period ended on February 11, 2010.

After publication of the DEIS, additional information regarding two of the alternatives identified and evaluated in the DEIS (the Reduced Acreage Alternative and the I-15 Alternative) was obtained by BLM through the Energy Commission public hearing and BLM public comment processes. Based on the receipt of these additional data, BLM concluded that the rationale for eliminating the Reduced Acreage and I-15 Alternatives in the DEIS was insufficient, and that these two alternatives merited more detailed evaluation in a Supplemental DEIS (SDEIS). The Notice of the Availability of the SDEIS was published on April 16, 2010; the 45-day public review and comment period ended on June 1, 2010.

In support of its Right-of-Way and CDCA Plan Amendment processes, the BLM has the responsibility to evaluate the environmental impacts of the proposed action, the No Action alternative, and other alternative actions that may meet the purpose and need for the proposed project. The Final EIS (FEIS) will be available for public review for 30-days before the BLM issues a Record of Decision (ROD). The decision regarding the ROW grant is appealable to the Interior Board of Land Appeals upon issuance of the ROD. The plan amendment decision is not an appealable decision but may be judicially challenged in Federal District Court.

1.2 Project Location and Description

The applicant has proposed to locate the ISEGS project in the Mojave Desert, near the Nevada border in San Bernardino County, California, on land administered by BLM. The proposed project site is located 4.5 miles southwest of Primm, Nevada and 0.5 mile west of the Primm Valley Golf Club which is located just west of the Ivanpah Dry Lake. Access to the site is from the Yates Well Road Interchange on I-15 via Colosseum Road.

The proposed ISEGS project is a solar concentrating thermal power plant, which is comprised of fields of heliostat mirrors focusing solar energy on boilers located on centralized power towers. Each mirror will track the sun throughout the day and reflect the solar energy to the receiver boiler. In each plant, one Rankine-cycle reheat steam turbine receives live steam from the solar boilers and reheats steam from the solar reheater. The solar field and power generation equipment would be put into operation

each morning after sunrise and insolation build-up, and shut down in the evening when insolation drops. Electricity would be produced by each plant's solar receiver boiler and the steam turbine generator.

The applicant proposes to develop the ISEGS project in three phases which are designed to generate a total of 400 MW of electricity. The first two phases of the project, Ivanpah 1 and 2, are designed to provide 100 MW of electricity and would occupy approximately 914 acres and 921 acres respectively; the 200 MW phase, Ivanpah 3, would require occupy approximately 1,836 acres. All three phases would be share an administration building, an operation and maintenance building, and substation which would be located in between Ivanpah 1 and 2 requiring an additional area of approximately 25 acres. Linear facilities, including re-routing of Colosseum Road, and natural gas, water, and transmission lines would require an additional 56 acres. Another 321 acres is needed for construction staging activities. ISEGS total project footprint amounts to approximately 4,073 acres (approximately 6.4 square miles).

The detailed description of the proposed project is documented within the applicant's Application for Certification to the Energy Commission (CH2M Hill 2007), as well as numerous applicant-submitted documents, responses to Data Requests, and management plans. These documents are all publicly available on the Energy Commission website at <http://www.energy.ca.gov/sitingcases/ivanpah/index.html>. These documents are referenced throughout the text of this FEIS where applicable, but are not otherwise attached as appendices to this FEIS.

Solar Power Plant Equipment and Facilities

Heliostats

Each heliostat would be configured with two mirrors hung in the portrait position. Each mirror would be 7.2 feet high by 10.5 feet wide, providing a reflective surface of 75.6 square feet (7.04 m²) per mirror or 14.08 m² per heliostat (See Figure 3-4). The heliostats would be connected with communication cables strung aboveground between each heliostat. The communications cables would transmit signals from a computer-programmed aiming control system that would direct the movement of each heliostat to track the movement of the sun (CH2M Hill 2009a). The number of heliostats described under the Optimized Project Design (55,000 each for Ivanpah 1 and 2, and 104,000 for Ivanpah 3) represents the maximum number of heliostats that would be constructed; however, all of them may not be constructed.

Solar Power Towers

The site design would include one power tower for each Ivanpah 1 and 2 and five towers within Ivanpah 3, with heights of 459 feet each. The central power tower of Ivanpah 3 would include the power block with one steam turbine-generator (STG) supplied superheated steam by the five power tower boilers. Steam from the four quadrant solar power tower boilers would be conveyed by above-ground pipeline. Each solar power tower would be a metal structure designed specifically to support the boiler and efficiently move high-quality steam through a STG at its base. The power tower support structure would be about 120 meters high (approximately 393 feet). The

receiving boiler (which sits on top of the support structure) would be 20 meters tall (approximately 66 feet) including the added height for upper steam drum and protective ceramic insulation panels (See Figure 3-5). Additionally, a Federal Aviation Administration (FAA)-required lighting and a lightning pole would extend above the top of the towers approximately 10 feet. The height of the power towers allows heliostats from significant distances to accurately reflect sunlight to the receiving boiler. The receiving boiler is a traditional high-efficiency boiler positioned on top of the power tower. The boiler converts the concentrated energy of the sun reflected from the heliostats into superheated steam. The boiler's tubes are coated with a material that maximizes energy absorbance. The boiler has steam generation, superheating, and reheating sections and is designed to generate superheated steam at a pressure of 160 bars and a temperature of 550 degrees Celsius (°C).

Power Block

Each solar power plant (Ivanpah 1, 2 and 3) would have a power block located in the approximate center of the power plant area. The power block would include a solar power tower, a receiver boiler, a STG set, air-cooled condensers, and other auxiliary systems. Each of the three solar-thermal plants would include the following equipment and facilities in their power block:

- natural gas-fired start-up boiler;
- the air emission control system for the combustion of natural gas in the start-up boiler;
- steam turbine generator;
- air-cooled condenser;
- auxiliary equipment (feed water heaters, a de-aerator, an emergency diesel generator, diesel fire pump, etc.);
- a raw water tank with a 250,000 gallon capacity, to supply water for plant use and fire fighting; and a
- water treatment system.

Related Equipment and Facilities

Natural Gas Pipeline

The solar heat used in the boiler (steam) process would be supplemented by burning natural gas to heat a partial load steam boiler when solar conditions are insufficient. Each power plant within the project would include a small package, natural gas-fired start-up boiler to provide additional heat for plant start-up and during temporary cloud cover. Natural gas would be supplied to the site through a new, proposed six-mile long distribution pipeline ranging from 4 to 6 inches in diameter. From the Kern River Gas Transmission pipeline, the pipeline would extend 0.5 miles south to the northern edge of Ivanpah 3. The line would then run east along the northern edge, and then south along the eastern edge, of Ivanpah 3 to a metering station near the southeast corner of Ivanpah 3. From there, a supply line would extend northwest into the Ivanpah 3 power

block. The main pipeline would continue along the eastern edge of Ivanpah 2 to another metering station at its southeastern corner. Again, a branch supply line will extend northwestwards into the center of the Ivanpah 2 power block. From that station, the pipeline would follow the paved access road from Colosseum Road past the administration/warehouse building to the Ivanpah 1 power block. A new tap metering station of approximately 100 feet by 150 feet in area would be located at the Kern River Gas Transmission Line.

Air Pollution Control

Air pollution emissions from the combustion of natural gas in the start-up boiler would be controlled using best available control technology. Each boiler would be equipped with low-Nitrogen Oxide (NO_x) burners for NO_x control. Carbon Monoxide (CO) would be controlled using good combustion practices such as burner and control adjustment based on oxygen continuous monitoring, operator training and proper maintenance. Particulate and Volatile Organic Compounds (VOC) emissions will be minimized through the use of natural gas as the fuel.

Water Supply and Discharge

The facilities would require a water source to support operations, including process water consisting of make-up water for the steam system and wash water for the heliostats, and potable water for domestic water needs. Groundwater would be supplied from one of two wells that would be constructed at the northwest corner of Ivanpah 1, just outside the perimeter fence but within the construction logistics area. Each of the three power blocks would be connected to the groundwater wells by underground water pipelines. The applicant estimates project water consumption would not exceed a maximum of 100 acre-feet per year for all three solar plants combined, which would primarily be used to provide water for washing heliostats (mirrors) and to replace boiler feed water blow-down.

The quality of groundwater would be improved using a treatment system for meeting the requirements of the boiler make-up and mirror wash water. Water treatment equipment would consist of activated carbon filters, de-ionization media, and a mixed-bed polisher. Each power plant would have a 250,000 gallon raw water storage tank. Approximately 100,000 gallons would be usable for plant process needs and 150,000 gallons would be reserved for fire protection. Demineralized water would be stored in a 25,000-gallon demineralized water storage tank. Boiler feedwater make-up water would be stored in another 25,000-gallon tank.

Fire Protection

The fire protection system would be designed to protect personnel and limit property loss and plant downtime in the event of a fire. The primary source of fire protection water would be the 250,000 gallon raw water storage tank to be located in each power block. Approximately 100,000 gallons would be usable for plant process needs and 150,000 gallons would be reserved for fire protection. All fire protection systems would be focused on the power blocks, administration/warehouse building, and other areas of active operations. The project would not include any specific facilities to address potential wild fires.

Access Roads and Maintenance Paths

Access to the project site would occur from the Yates Well Road exit from I-15 to Colosseum Road. Colosseum Road, currently a dirt road, would be paved to a 30-foot wide, two lane road for a distance of 1.9 miles from the Primm Valley Golf Club to the facility entrance. Because the current route of Colosseum Road would be incorporated into the Ivanpah 2 plant site, the road would be re-routed around the southern end of Ivanpah 2 before re-joining the current road to the west of the proposed facility. Within the heliostat fields, maintenance paths would be established concentrically around the power blocks to provide access for heliostat washing and maintenance. The paths would be established between every other row of heliostats. An additional maintenance path would be established on the inside perimeter of the boundary fence. Within each unit, a diagonal dirt road would be established to provide access to the concentric maintenance paths and the power blocks.

Off-road, recreational vehicle trails currently authorized by BLM which run through the proposed project site would be re-located outside of the project boundary fence. The project boundary would overlap three existing open route designations; route 699226, route 699198, and a segment of Colosseum Road. Approximately 7,200 feet of route 699226 would be cut off by the Ivanpah 3 facility and another 6,500 feet of route 669198 would be cut off by the Ivanpah 2 facility. An estimated 5,000 feet of the Colosseum Road would also be cut off by the Ivanpah 2 facility. The closed portions of the three routes would be removed from the list of open routes on BLM's Off Highway Vehicle designation. The replacement routes would be part of the ROW grant for the project, and would remain open and maintained by the applicant for the life of the facility. The redirected routes and Colosseum Road would be designed and constructed to minimize damage to soil, watershed, vegetation, and air resources. These routes would be monitored by the applicant to avoid disruption to wildlife resources.

Construction Logistics Area, Substation, and Administrative Complex

The applicant proposes using a temporary construction logistics area for staging contractor equipment and trailers, assembly yards, storage of materials, equipment laydown and wash area, construction personnel parking, and assembly areas for heliostats. The construction logistics area would be located between Ivanpah 1 and 2 and would comprise approximately 377.5 acres. Following project construction, the majority of the area would undergo site closure, rehabilitation, and revegetation as described in the Draft Closure, Revegetation, and Rehabilitation Plan (CH2M Hill 2009b).

Fencing

The project area would be surrounded by security fence, which would be constructed of 8-foot tall galvanized steel chain-link, with barbed wire at the top as required. The security fence would surround the outer perimeter of each power plant, the substation, and the administrative complex. Tortoise barrier fence would also be installed in accordance with the Recommended Specifications for Desert Tortoise Exclusion Fencing (USFWS 2005). The tortoise fence would consist of 1-inch horizontal by 2-inch vertical galvanized welded wire. The fence would be installed to a depth of 12 inches,

and would extend 22 to 24 inches above the ground surface and integrated with the security fence.

In addition to use of the proposed right-of-way area, the applicant proposes some project-related activities to occur outside of the project fence, on land not included within the proposed right-of-way area. These would include inspection and maintenance of the fence, underground utility repairs, maintenance of drainage systems, and possible installation of new stormwater drainage systems. As discussed with respect to Access Roads above, a roadway would need to be maintained outside of the project fence to allow vehicle and equipment access for these activities.

Transmission System Interconnection and Upgrades

Onsite Transmission Facilities

The ISEGS project would deliver power from Ivanpah 1, 2 and 3 via three separate 115-kilovolt (kV) transmission generation tie lines to a new Ivanpah substation that would be owned and operated by Southern California Edison and located in the common construction logistics area between Ivanpah 1 and 2. The new Ivanpah substation would be about 850 feet by 850 feet and located on a little over 16 acres. Each of the power plants would have a switchyard with a step-up transformer to increase the 13.8 kV generator output voltage to 115 kV. The ISEGS #1 115 kV generator tie line would be approximately 5,800 feet long and supported by single-pole structures. The ISEGS #2 and #3 generator tie lines would share the same poles for the last 1,400 feet of their routes before they interconnect to SCE's Ivanpah Substation. The ISEGS #2 generator would connect to the Ivanpah Substation through a 115kV, 3,900 feet-long single circuit generator tie line built with the last 1,400 feet merged with the ISEGS #3 generator tie line to create a 1,400 feet long, overhead double circuit line prior to entering the Ivanpah Substation. The ISEGS #3 generator tie line would be an approximately 14,100 feet long, single circuit, 115 kV line and would merge into a 115kV double circuit with the ISEGS #2 generator tie line. In accordance with the Interconnection Agreement between the applicant and SCE, the existing Eldorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115-kV line would loop in and out through the newly built Ivanpah Substation to interconnect the project to the SCE transmission grid. This 115-kV line is currently aligned between the Ivanpah 1 and 2 sites along a northeast-southwest right-of-way.

Eldorado – Ivanpah Transmission Line

In order to accommodate the total anticipated 1,400 MW load generation by ISEGS and five other planned renewable energy generation projects in the region, the California Independent System Operator (California ISO) has identified approximately 36 miles of transmission line within California and Nevada that would need to be upgraded from 115 kV to 230 kV. This upgrade of SCE's existing 115-kV line is known as the Eldorado-Ivanpah Transmission Project (EITP). Because the EITP is to be implemented by a different applicant and would occur whether or not the ISEGS proposed project were implemented, it is independent of the proposed ISEGS project, and is currently undergoing a separate environmental review under a joint Environmental Impact Report (EIR) and EIS by the California Public Utilities Commission (CPUC) and BLM. However, since the two projects would be directly linked, additional detailed information

regarding the scope of the EITP is provided in the following paragraphs. In the ISEGS FSA/DEIS, the EITP was considered a reasonably foreseeable future project because the proponent had not developed the project in enough detail to begin a joint analysis with ISEGS. That detailed project information on EITP is now available, so EITP is considered to be a cumulative action in this FEIS. The evaluation of cumulative impacts associated with the combination of the proposed ISEGS project with the EITP, presented in Section 5, is supported by additional information that was presented in the Draft EIR/EIS for the EITP, which was published on May 7, 2010. If the reader should desire additional detailed information regarding the EITP project, that information is available in the Draft EIR/EIS.

Telecommunications Facilities

The proposed Ivanpah Substation would also require that new telecommunication infrastructure be installed to provide protective relay circuit and a supervisory control and data acquisition (SCADA) circuit, together with data and telephone services. The telecommunication path from Ivanpah Substation to the local carrier facility interface at Mountain Pass area consists of approximately eight miles of fiber optic cable to be installed overhead on existing poles and through new underground conduits to be constructed in the substation and telecom carrier interface point. The fiber cable would be installed on the existing 12-kV distribution line poles.

Project Design and Management Approach

Stormwater Management Approach

The proposed project site is located on an alluvial fan that acts as an active stormwater conveyance between the Clark Mountain Range to the west and the Ivanpah Dry Lake to the east. The applicant's proposed stormwater design and management system is a Low-Impact Development (LID) design concept which attempts to minimize disruption to natural stormwater flow pathways. The elements of the applicant's design approach include minimizing the areas of direct removal of vegetation, minimizing the areas of grading and leveling, and minimizing the amount of active management of stormwater in engineered channels, ponds, and culverts.

Project Construction

The applicant anticipates ISEGS construction would be performed in the following order: 1) the Construction Logistics Area; 2) Ivanpah 1 (the southernmost site) and other shared facilities; 3) Ivanpah 2 (the middle site); and 4) Ivanpah 3 (the 200-MW plant on the north). However, it is possible that the order of construction may change. The shared facilities will be constructed in connection with the first plant construction, whether it is Ivanpah 1, 2, or 3. Prior to construction, geotechnical testing, heliostat installation tests, and heliostat load tests would be performed in each of the three units. Construction is planned to take place over approximately 48 months, with the applicant's desire that it could begin during the first quarter of 2010 and be completed during the fourth quarter 2013.

Project construction would be performed in accordance with plans and mitigation measures that would assure the project conforms with applicable laws and regulations

and would avoid or minimize adverse impacts. These plans that are to be developed by the applicant, for which some have already been prepared in draft and reviewed by BLM to support this environmental analysis, are specified in the mitigation measures as appropriate of each technical area of this FEIS. Of the plans already prepared in draft by the applicant, those that have contributed most significantly to define the proposed plan of development, including construction procedures, are as follows:

- Draft Contractor Health and Safety Standards (CH2M Hill 2009c)
- Administrative Draft ISEGS Construction Stormwater Pollution Prevention Plan (CH2M Hill 2009d)
- Preliminary Draft Plan, Revision 2, Drainage, Erosion, and Sediment Control Plan (CH2M Hill 2009e)
- Draft Raven Management Plan, ISEGS (CH2M Hill 2008a)
- Draft Desert Tortoise Translocation/Relocation Plan for ISEGS (CH2M Hill 2009f)
- Application for Incidental Take Permit Under Section 2081 of the Fish and Game Code (CH2M Hill 2009g)
- Draft Biological Assessment for the ISEGS Project (CH2M Hill 2008b)
- Streambed Alteration Agreement Application (CH2M Hill 2009h)
- Weed Management Plan for ISEGS, Eastern Mojave Desert (CH2M Hill 2008c)

The proposed facilities and procedures described in these documents have been used by BLM throughout the EIS process to evaluate potential impacts and mitigation measures. The documents have also undergone revision by the applicant throughout the process, in response to comments and questions from BLM and the Energy Commission. The documents are publicly available on the Energy Commission website at <http://www.energy.ca.gov/sitingcases/ivanpah/index.html>.

Facility Operation and Maintenance

The proposed project would be designed for an operational life of 50 years. During this period, project operations would be supported by a variety of operational, maintenance, and monitoring activities. Within the power blocks, operations would include transmission of water and natural gas into the power block, and operation of the natural gas-fired start-up boiler, the air emission control system for the combustion of natural gas in the start-up boiler, a steam turbine generator, an air-cooled condenser, and auxiliary equipment (feed water heaters, a de-aerator, and an emergency diesel generator, diesel fire pump).

Within the heliostat fields, operations would include routine washing of mirrors on a rotating basis, every two weeks. Washing would utilize water accessed from the groundwater supply wells, following treatment in the water treatment system. Washing would be done using a truck-mounted pressure washer. Maintenance would also include clipping of vegetation that could interfere with mirror movement to a height of 12 – 18 inches, management of weeds as specified in the Applicant's Weed Management

Plan (CH2M Hill 2008c), and use of soil binder and weighting agents to minimize dust accumulation on the mirrors and fugitive dust as could occur by wind or vehicle traffic.

Waste Management

Non-hazardous solid wastes generated during construction would include approximately 280 tons of scrap wood, concrete, steel/metal, paper, glass, scrap metals and plastic waste (CH2M Hill 2007, § 5.14.4.1.1). All non-hazardous wastes would be recycled to the extent possible and non-recyclable wastes would be collected by a licensed hauler and disposed in a Class III solid waste disposal facility. Hazardous wastes would be recycled to the extent possible and disposed in either a Class I or II waste facility as appropriate. All operational wastes produced at ISEGS would be properly collected, treated (if necessary), and disposed of at either a Class I or II waste facility as appropriate. Wastes include process and sanitary wastewater, nonhazardous waste and hazardous waste, both liquid and solid. A septic system for sanitary wastewater would be located at the administration building/operations and maintenance area, located between Ivanpah 1 and 2. Portable toilets would be placed in the power block areas of each the three solar facilities and pumped by a sanitary service provider. Process wastewater from all equipment, including the boilers and water treatment equipment would be recycled.

Hazardous Waste Management

Hazardous materials used during facility construction and operations would include paints, epoxies, grease, transformer oil, and caustic electrolytes (battery fluid). Several methods would be used to properly manage and dispose of hazardous materials and wastes. Waste lubricating oil would be recovered and recycled by a waste oil recycling contractor. Chemicals would be stored in appropriate chemical storage facilities. Bulk chemicals would be stored in large storage tanks, while most other chemicals would be stored in smaller returnable delivery containers. All chemical storage areas would be designed to contain leaks and spills in concrete containment areas.

Project Decommissioning

Following the operational life, estimated at 50 years, the project owner would perform site closure activities to meet federal and state requirements for the rehabilitation and revegetation of the project site after decommissioning. The procedures to be used for project decommissioning and restoration are defined in the Applicant's Closure, Revegetation, and Rehabilitation Plan – Revision 3 (CH2M Hill 2010). Under this plan, all aboveground structures and facilities would be removed offsite for recycling or disposal. Areas that had been graded would be restored to original contours. Succulent plant species would be salvaged prior to construction, transplanted into windrows, and maintained for later transplanting following decommissioning. Shrubs and other plant species would be revegetated by the collection of seeds and re-seeding following decommissioning. Decommissioning would be subject to many of the same environmental protection plans as are required for construction.

Mitigation Measures

Mitigation measures have been developed that would be implemented during all appropriate phases of the project from initial ground breaking, to operations, and through closure and decommissioning. The mitigation measures include a combination of the following:

- Measures that have been proposed by the applicant, and that effectively comprise a portion of the proposed action;
- Conditions of Certification (COCs) proposed by the California Energy Commission;
- Regulatory requirements of other federal, state, and local agencies;
- USFWS terms and conditions identified in the Biological Opinion; and
- Additional BLM-proposed mitigation measures and standard right-of-way (ROW) grant terms and conditions.

These requirements are generically referred to as “mitigation measures” throughout this FEIS. Table 4.0-1, in Section 4.0, describes the source of each of these measures, including identification of those that would be required by BLM as conditions of approval in the right of way grant.

1.3 Alternatives to the Proposed Project

Alternatives Identification and Screening

In this analysis of the ISEGS project, 25 alternatives to the ISEGS project have been developed and evaluated. These include nine alternative site locations, a range of different solar and renewable technologies, generation technologies using different fuels, and conservation/demand-side management. Of the 25 alternatives, the only alternatives that were determined to be both feasible and have the potential to result in lesser impacts were:

- Mitigated Ivanpah 3 Alternative
- Modified I-15 Alternative
- No Action Alternative

After a comprehensive evaluation of the nine alternative site locations, only the I-15 and Reduced Acreage alternatives, among the site alternatives, were found to have a potential to avoid or minimize adverse effects on the human environment. These two alternatives were retained for more detailed analysis in Section 4, the Environmental Consequences chapter.

Alternative solar thermal technologies (parabolic trough, Stirling dish, utility scale solar photovoltaics, and linear Fresnel) were considered. As with the proposed distributed power tower technology, these technologies would not substantially reduce visual impacts or biological resources impacts, though land requirements vary among the

technologies. Rooftop solar photovoltaic (PV) facilities would likewise require extensive acreage, although rooftop PV could minimize the need for undisturbed open space. However, increased deployment of rooftop solar PV faces challenges in manufacturing capacity, cost, and policy implementation. Finally, these alternative solar technologies were not the subject of the application received by the BLM. Although reasonable alternatives to the proposed action may include those that are practicable or feasible from a technical and economic standpoint, rather than simply desirable from the applicant's perspective, it is not within the FLPMA authority granted to BLM to direct a project applicant to the specific type of technology or system of energy development on the public lands. For BLM to dictate a project applicant's business model, and hence its technical or economic feasibility, is highly irregular. However, for NEPA purposes, these alternative technologies were identified but eliminated from full analysis as explained in the body of the text in the FEIS.

Other generation technologies (wind, geothermal, biomass, tidal, wave, natural gas, and nuclear) were also examined as possible alternatives to the proposed solar project. These technologies would either be infeasible at the scale of the ISEGS project, or would not eliminate adverse impacts caused by the ISEGS project without creating their own adverse impacts in other locations. A natural gas plant would contribute to greenhouse gas emissions and would not meet the project's renewable generation objective. Construction of new nuclear power plants is currently prohibited under California law. In addition, these alternatives would not meet the purpose and need for the project, are not reasonable, and many are not within the decision space of the BLM. For instance, tidal and wave energy sources are not within the types of energy sources found on public lands. These alternative energy technologies were eliminated from full discussion in the EIS as noted therein.

Conservation and demand side management programs would likely not meet the state's growing electricity needs that could be served by the ISEGS project. In addition, these programs would not provide the renewable energy required to meet the California Renewable Portfolio Standard requirements.

Mitigated Ivanpah 3 Alternative

- In support of the analysis of a reduced acreage alternative, BrightSource (the applicant) submitted a Biological Mitigation Proposal, also referred to as the "Mitigated Ivanpah 3" proposal, on February 11, 2010 (BSE 2010a). The Mitigated Ivanpah 3 proposal was presented for consideration to BLM as an alternative to the proposed project. The Mitigated Ivanpah 3 proposal seeks to address the impacts identified in the DEIS by proposing a facility with the following characteristics:
- Using the same concentrating solar power technology as in the proposed project;
- Reducing the number and modifying the arrangement of heliostats and power towers, thus reducing the overall acreage requested for the ROW authorization;
- Proposing the revised arrangement of heliostats and power towers in a manner that avoids the northern portion of the Ivanpah 3 Unit, and thus reduces the

identified impacts associated with special-status plants, desert tortoises, Visual Resources, and Soil and Water Resources in that area.

A detailed description of the Mitigated Ivanpah 3 proposal is presented in Section 3, and its potential impacts are evaluated in Section 4. The project revision to propose the Mitigated Ivanpah 3 Alternative would reduce the acreage associated with Ivanpah Unit 3 by moving the northern boundary of the ROW grant approximately 1900 feet south of its location in the proposed project, resulting in a reduction of 433 acres of disturbance in that area, as well as a reduction of 433 acres in the total overall ROW grant. The 433-acre area that would be eliminated from the proposed project alternative would be designated as the Northern Rare Plant Mitigation Area (BSE 2010a). The alternative would also eliminate the need to grade approximately 109 acres within the 377-acre Construction Logistics Area (CLA) area. This area would remain within the ROW grant for the Mitigated Ivanpah 3 Alternative, and 67.5 acres of this area would be used as a Rare Plant Transplantation and Succulent Nursery Area. The alignment of the natural gas pipeline ROW, which would follow the northern boundary of Ivanpah Unit 3 in the proposed project alternative, would be extended to and along the revised northern boundary in the Mitigated Ivanpah 3 Alternative. The remainder of the acreage for the requested ROW grant would remain the same as that for the proposed project. However, other facilities and infrastructure within that footprint, including the boundary between Ivanpah 2 and 3, would be adjusted as needed to allow for construction and operation of the revised project design. The total acreage requested for the ROW for the Mitigated Ivanpah 3 Alternative would be 3564.2 acres.

An evaluation of the environmental impacts of the proposal is presented in Section 4. The Mitigated Ivanpah 3 Alternative would accomplish all of the objectives of the purpose and need, including meeting power demand, as well as federal and state objectives for renewable energy development. It would also achieve almost all of the beneficial impacts of the proposed project, including socioeconomic benefits of increases in employment and fiscal resources, and displacement of greenhouse gas and air pollutant emissions associated with fossil-fueled power plants. While meeting these objectives and providing these beneficial impacts, the direct and cumulative adverse impacts of the Mitigated Ivanpah 3 Alternative would be lower than the proposed project, specifically in the areas of Biological Resources (including DT, and special-status plant species), Soil and Water, Visual Resources, Land Use, and Traffic and Transportation. The reduction in impacts would be accomplished by eliminating the northern 433-acre portion of Ivanpah Unit 3 from the project footprint, eliminating grading of approximately 109 acres within the 377-acre CLA area, and using 67.5 acres of the CLA as a Rare Plant Transplantation and Succulent Nursery Area.

Modified I-15 Alternative

To support the analysis of a Modified I-15 Alternative, the applicant submitted a map showing a proposed reconfiguration of Ivanpah Unit 3 to BLM on March 17, 2010 (BSE 2010b). The Modified I-15 Alternative would use the same technology and configuration of components as the Mitigated Ivanpah 3 Alternative, but would seek to further reduce

impacts to Biological Resources by placing Ivanpah Unit 3 in an area which is reported to have a lower density of those resources.

A detailed description of the Modified I-15 Alternative, which involves a reconfiguration of Ivanpah Unit 3 in a location closer to Interstate 15, is presented in Section 3. The Modified I-15 Alternative would reduce the acreage associated with Ivanpah Unit 3, and in the overall ROW grant, by 433 acres. The alternative would also eliminate the need to grade approximately 109 acres within the 377-acre CLA area. This area would remain within the ROW grant for the Modified I-15 Alternative, and 67.5 acres of this area would be used as a Rare Plant Transplantation and Succulent Nursery Area. The alignment of the natural gas pipeline ROW, which would follow the northern boundary of Ivanpah Unit 3 in the proposed project alternative, would be extended to and along the northern boundary of Ivanpah Unit 2 in the Modified I-15 Alternative. The remainder of the acreage for the requested ROW grant would remain the same as that for the proposed project. However, other facilities and infrastructure within that footprint would be adjusted as needed to allow for construction and operation of the revised project design. The total acreage requested for the ROW for the Modified I-15 Alternative would be 3,564.2 acres.

An evaluation of the environmental impacts of the alternative is presented in Section 4. The Modified I-15 Alternative would also accomplish all of the objectives of the purpose and need, including meeting power demand, as well as federal and state objectives for renewable energy development. It would also achieve almost all of the beneficial impacts of the proposed projects, including socioeconomic benefits of increases in employment and fiscal resources, and displacement of greenhouse gas and air pollutant emissions associated with fossil-fueled power plants. While meeting these objectives and providing these beneficial impacts, the adverse impacts of the Modified I-15 Alternative would be lower than the proposed project in some areas, but would be increased in other areas. With respect to Biological Resources, the Modified I-15 Alternative would likely have a reduced impact on high quality desert tortoise habitat, as a result of avoiding the northern 433-acre portion of Ivanpah Unit 3, as well as reconfiguring Ivanpah Unit 3 in a location which partially overlaps the lower quality habitat adjacent to Interstate 15. By including this lower quality habitat within the reconfigured Ivanpah Unit 3 boundaries, the overall impact of the Modified I-15 Alternative on the desert tortoise is likely to be lower than that of the Mitigated Ivanpah 3 Alternative, and for purposes of analysis in the EIS, the overall impact to desert tortoise habitat was assumed to be less; however, this assumption cannot be confirmed without formal surveys of the reconfigured Ivanpah Unit 3 area.

Impacts of the Modified I-15 Alternative to Visual Resources and potential glare impacts for viewers on Interstate 15 would increase over those of both the proposed project and the Mitigated Ivanpah 3 Alternative, due to the placement of heliostat fields within 1,000 feet of the highway for a distance of 1.8 miles. The Modified I-15 Alternative could also result in an increase in impacts to recreational access as compared to the proposed project and Mitigated Ivanpah 3 Alternative, due to the greater length of existing OHV trails that would be included within the project footprint.

1.4 Public and Agency Coordination

Both the Energy Commission's Environmental Quality Act (CEQA)-equivalent process and the BLM's NEPA process provide opportunities for the public and other agencies to participate and consult in the scoping of the environmental analysis, and in the evaluation of the technical analyses and conclusions of that analysis. The following subsections describe the status of these outreach efforts.

Agency Coordination

California Energy Commission

The Energy Commission has the exclusive authority to certify the construction, modification, and operation of thermal electric power plants 50 megawatts (MW) or larger. The Energy Commission certification is in lieu of any permit required by state, regional, or local agencies and by federal agencies to the extent permitted by federal law (Pub. Resources Code, § 25500). The Energy Commission must review power plant AFCs to assess potential environmental impacts including potential impacts to public health and safety, potential measures to mitigate those impacts (Pub. Resources Code, § 25519), and compliance with applicable governmental laws or standards (Pub. Resources Code, § 25523 (d)). In the development of their Final Staff Assessment, the Energy Commission staff's analyses were prepared in accordance with Public Resources Code, section 25500 et seq.; Title 20, California Code of Regulations, section 1701 et seq.; and CEQA (Pub. Resources Code, § 21000 et seq.).

As discussed above, the DEIS for this proposed project was developed as a joint environmental review document, the FSA/DEIS, under an MOU between the Energy Commission and BLM California State Office. Throughout the environmental review process, BLM and Energy Commission staff have conducted joint technical analysis, and co-authored the FSA/DEIS. Following the completion of the FSA/DEIS, BLM and the Energy Commission's environmental review process was separated, as BLM prepared a stand-alone SDEIS and this FEIS, and the Energy Commission prepared a stand-alone FSA Addendum to evaluate additional project alternatives. Throughout the process subsequent to the publication of the FSA/DEIS, BLM and Energy Commission staff have continued to coordinate through conference calls and the review of each other's documents.

The Energy Commission certification is in lieu of any permit required by state, regional, or local agencies and by federal agencies to the extent permitted by federal law (Pub. Resources Code, § 25500). However, both the Commission and BLM typically seek comments from and work closely with other regulatory agencies that administer laws and regulations that may be applicable to the proposed project.

U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers (USACE) has jurisdiction to protect water quality and wetland resources under Section 404 of the Clean Water Act. Under that authority, USACE reviews proposed projects to determine whether they may impact such resources, and/or be subject to a Section 404 permit. Throughout the DEIS process, the Energy Commission, BLM, and the applicant have provided information to the

USACE to assist them in making a determination regarding their jurisdiction and need for a Section 404 permit. The USACE rendered a final opinion on May 28, 2009 concluding that the project does not affect waters of the U.S. and thus does not require such a permit.

National Park Service

The National Park Service manages the Mojave National Preserve (MNP), which is located near the proposed project area. Because of the proximity of the MNP, the Park Service has been invited to participate in scoping meetings and public workshops, and has been provided the opportunity review and provide comment on the Preliminary Staff Assessment (PSA) and DEIS.

U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction to protect threatened and endangered species under the Endangered Species Act (ESA). Formal consultation with the USFWS under Section 7 of the ESA is required for any federal action that may adversely affect a federally-listed species. The desert tortoise (*Gopherus agassizii*), which occurs in the proposed project area, is a federally-listed threatened species, and therefore formal consultation with the USFWS is required. This consultation has been initiated through the preparation and submittal of a Biological Assessment (BA) which describes the proposed project to the USFWS. Following review of the BA, the USFWS is expected to issue a Biological Opinion (BO) which will specify mitigation measures that must be implemented for the protection of the desert tortoise.

State Water Resources Control Board/Regional Water Quality Control Board

The Lahontan Regional Water Quality Control Board (RWQCB) has the authority to protect both surface water and groundwater resources at the proposed project location. Throughout the EIS process, the Energy Commission, BLM, and the applicant have invited the RWQCB to participate in public scoping and workshops, and have provided information to assist BLM in evaluating the potential impacts and permitting requirements of the proposed project. The RWQCB has responded by providing comments that have been evaluated and incorporated into the EIS analysis. The RWQCB has also made a determination that the proposed project would impact waters of the state, and has specified conditions to satisfy requirements of a dredge and fill permit/waste discharge requirements. These requirements have been included as mitigation measures in Section 4.10.

California Department of Fish and Game

The California Department of Fish and Game (CDFG) has the authority to protect water resources of the state through regulation of modifications to streambeds, under Section 1602 of the Fish and Game Code. The Energy Commission, BLM, and the applicant have provided information to CDFG to assist in their determination of the impacts to streambeds, and identification of permit and mitigation requirements. The applicant filed a Streambed Alteration Agreement with CDFG on June 2, 2009. The requirements of the Streambed Alteration Agreement will be included as a recommended Mitigation Measure.

CDFG also has the authority to regulate potential impacts to species that are protected under the California Endangered Species Act (CESA). On May 22, 2009, the applicant filed an application for authorization for incidental take of the desert tortoise under Section 2081(b) of the CESA. The requirements of the Incidental Take Permit have been included as a recommended Mitigation Measure.

County of San Bernardino

On March 18, 2008, the BLM California Desert District entered into an MOU with the County of San Bernardino to coordinate environmental reviews for renewable energy projects on public land within the County. Under this MOU, BLM invites the County to become a cooperating agency for EISs, and provides opportunities for County staff to review and participate in technical discussions and analyses. For the proposed project, the County has elected to become a cooperating agency. BLM continues to provide the County with project-related documentation for their review and evaluation, and the County has provided guidance for protection of groundwater resources which has been incorporated into Section 4.10 of this document.

Public Coordination

Both the Energy Commission's CEQA-equivalent process and the BLM's NEPA process provide opportunities for public participation in the scoping of the environmental analysis, and in the evaluation of the technical analyses and conclusions of that analysis. For the Energy Commission, this outreach program is primarily facilitated by the Public Adviser's Office (PAO). As part of the coordination of the environmental review process required under the Energy Commission/BLM California MOU, the agencies have jointly held public meetings and workshops which accomplish the public coordination objectives of both agencies. This is an ongoing process that to date has involved the following efforts.

Libraries

The AFC was sent to the main county libraries in San Bernardino, Barstow, Fresno, and Eureka; the main branches of the San Diego and San Francisco public libraries; the University Research Library at UCLA; the California State Library, and the Energy Commission's library in Sacramento.

Outreach Efforts

BLM solicited interested members of the public and agencies through the NEPA scoping process. BLM published a Notice of Intent to develop the EIS and amend the CDCA Plan in the Federal Register, Vol. 72, No. 214, page 62671, on November 6, 2007. The initial Public Scoping meeting was held on January 4, 2008, and coincided with the Informational Hearing held by the Energy Commission. On January 9, 2009, BLM published notice of an extension of the public scoping period, and an additional joint public scoping meeting was held on January 25, 2008.

Following the scoping period, the Energy Commission and BLM held additional joint Issue Resolution workshops which were announced and made available to the public. These workshops were held on June 23, 2008 in Primm, Nevada, and on July 31 and

December 15, 2009 in Sacramento, California. The Energy Commission continued to accept and consider public comments, and granted petitions to intervene to eight interested groups including Defenders of Wildlife, Sierra Club, Basin and Range Watch, and Center for Biological Diversity (June 2, 2009), California Native Plant Society, Western Watersheds, CURE, and San Bernardino County. Although not officially part of BLM's NEPA process, BLM's NEPA analysis was supported by information received through these activities.

The BLM public participation process included soliciting comments regarding the scope of the analysis from other government agencies, the public, and non-governmental organizations. The persons and organizations which provided scoping comments, and the general issues addressed within their comments, are provided in **Table 2.1**.

Summary of Public Comments on DEIS and Supplemental DEIS

The Notice of Availability of the DEIS was published on November 10, 2009; the 90-day public review and comment period ended on February 11, 2010. During the public comment period, a variety of activities occurred in which BLM received additional information regarding the proposed project and potential alternatives, impacts, and mitigation measures. These activities included:

- Receipt of comments from the public, and other local, state, and federal agencies during the public comment period;
- Public testimony by Energy Commission staff and consultants, BrightSource staff and consultants, and intervenors associated with the Energy Commission certification process for ISEGS;
- Workshops, involving BLM staff and consultants as well as the above groups, to consider and evaluate impact conclusions and mitigation approaches; and
- Submittal of additional technical reports, project design information, impact analyses, and applicant-proposed mitigation measures by BrightSource.

BLM received comments on the DEIS from 37 individuals, groups, and agencies. These comments are summarized in Appendix A-1 of this FEIS. Comments from 20 individuals, groups, and agencies were received on the SDEIS, and these comments are summarized in Appendix A-2 of this FEIS. Both sets of comments included hundreds of comments received both in favor of the project, and in opposition to the project, in the form of mass mailings and e-mails. The summaries in Appendices A-1 and A-2 include a description of how each comment was evaluated and responded to by BLM. Also, where a comment is particularly relevant to the technical discussion in the text of the FEIS (either comments resulting in revision to the FEIS, or comments dissenting from important conclusions of the FEIS), that information has been incorporated into the revisions for the FEIS. Section 9 also provides a discussion of the comments, including both those which resulted in a change to the text in the FEIS, and those which were considered, but did not result in a change. The comments generally addressed the following topics

- The range of alternatives considered and evaluated, and the methodology for evaluating the alternatives;

- The scope of projects considered in the cumulative impacts analysis, and the methodology for conducting that analysis;
- Opposition to the contribution of the project to industrialization of Ivanpah Valley; and
- Specific comments related to impacts to biological resources, the Mojave National Preserve, air traffic, County services, and other resources.

The applicant's Application for Certification to the Energy Commission (CH2M Hill 2007), the Energy Commission's PSA, and the joint BLM/Energy Commission FSA/DEIS are all publicly available on the Energy Commission website at <http://www.energy.ca.gov/sitingcases/ivanpah/index.html>.

1.5 Environmental Justice

Executive Order 12898, "Federal Actions to address Environmental Justice in Minority Populations and Low-Income Populations," focuses federal attention on the environment and human health conditions of minority communities and calls on federal agencies to achieve environmental justice as part of this mission. The order requires the USEPA and all other federal agencies (as well as state agencies receiving federal funds) to develop strategies to address this issue. The agencies are required to identify and address any disproportionately high and adverse human health or environmental effects of their programs, policies, and activities on minority and/or low-income populations.

The steps recommended to assure compliance with the Executive Order are: (1) outreach and involvement; (2) a screening-level analysis to determine the existence of a minority or low-income population; and (3) if warranted, a detailed examination of the distribution of impacts on segments of the population. BLM has followed each of the above steps for the following 11 sections in the EIS: Air Quality, Hazardous Materials, Land Use, Noise, Public Health and Safety, Socioeconomics and Environmental Justice, Soils and Water, Traffic and Transportation, Transmission Line Safety/Nuisance, Visual Resources, and Waste Management.

According to the Census 2000 data there were 36 people within six miles of the proposed project site which resided within California. Ten of these people (27.8 percent) were classified as minority (see **Figure 4.9-1**). No census blocks within a six-mile radius of the proposed ISEGS site contain minority populations greater than 50 percent. The 2000 Census block data did not identify any California residents living below the designated poverty level within a six-mile radius of the project site.

No minority communities or low income communities are located within or adjacent to the proposed project areas. The proposed action would not impact distinct Native American cultural practices or result in disproportionately high or adverse human health or environmental effects on minority communities.

1.6 Organization of the EIS

The FEIS is organized as follows:

Section 1 – Executive Summary summarizes the EIS.

Section 2 – Introduction discusses the purpose and need for the proposed project, as well as BLM's processes for the CDCA Plan Amendment and the EIS.

Section 3 – Alternatives, Including the Proposed Action, provides a detailed description of the proposed project and those alternatives which have been retained for detailed evaluation. The section also describes BLM's methodology for identifying and screening alternatives, and describes the rationale for elimination of other alternatives from detailed evaluation.

Section 4 – Affected Environment and Environmental Consequences. The environmental and public health and safety analyses of the proposed project are contained in Section 4. They include the following: Air Quality, Greenhouse Gases, Biological Resources, Cultural Resources and Native American Values, Hazardous Materials Management, Land Use, Noise and Vibration, Public Health and Safety, Socioeconomics and Environmental Justice, Soil and Water Resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, Waste Management, , Worker Safety and Fire Protection, Geology, Paleontology and Minerals, Livestock Grazing, Wild Horses and Burros, and Recreation.

Each of these 19 technical area assessments includes a discussion of:

- Detailed project-specific information that is directly relevant to the resource being evaluated;
- Laws and regulations;
- Affected environment;
- Project direct and indirect impacts from construction, operations, and closure and decommissioning impacts;
- Beneficial impacts;
- Impacts of alternatives, including the No Action Alternative;
- Mitigation Measures; and
- Summary

Section 5 – Cumulative Effects, including identification of the past, present, and reasonably foreseeable future projects, and an evaluation of the cumulative impacts resulting from those projects in combination with the proposed project and alternatives.

Section 6 – Other NEPA Considerations provides an evaluation of the irreversible and irretrievable commitment of resources, unavoidable adverse impacts, and growth inducing effects.

Section 7 – General Conditions, which provides the General Conditions of Approval that are proposed for inclusion in the ROW grant.

Section 8 – Summary, which summarizes the results of the environmental analysis, and identifies BLM's preferred alternative.

Section 9 – Public Participation summary

Section 10 – List of Preparers

Section 11 – References

Appendix A provides a summary of public comments received on the DEIS and SDEIS, including BLM's responses to the comments.

Appendix B contains technical resource-specific appendices that provide additional information to support the technical analyses in Section 4.

Appendix C provides additional information developed by the Energy Commission which is not part of BLM's environmental analysis, but describes additional features of the proposed action. This includes the Energy Commission's General Conditions of Certification that are specific to the Energy Commission's certification process. In addition, engineering analyses performed by the Energy Commission are included in Appendix C, and include sections on Facility Design, Power Plant Efficiency, Power Plant Reliability, and Transmission System Engineering.

1.7 Summary of Project Related Impacts

Air Quality

Potential impacts to air quality are summarized as follows:

- The project would not have the potential to exceed Prevention of Significant Deterioration (PSD) emission levels during direct source operation and the facility is not considered a major stationary source with potential to cause adverse air quality impacts. However, without adequate fugitive dust mitigation, the project would have the potential to exceed the General Conformity PM10 applicability threshold during construction and operation, and could cause potential localized exceedances of the PM10 National Ambient Air Quality Standards (NAAQS) during construction and operation. Mitigation measures **AQ-SC1** through **AQ-SC4**, for construction, and **AQ-SC7**, for operation, would reduce the volume of emissions, and thus reduce the potentially adverse, direct impacts and the contribution of the proposed project to indirect and cumulative impacts.
- The project would comply with applicable District Rules and Regulations, including New Source Review requirements, as required by the Mojave Desert Air Quality Management District (MDAQMD) Final Determination of Compliance (FDOC) for the proposed project.
- The project's construction activities would likely contribute to adverse PM10 and ozone impacts. Mitigation measures **AQ-SC1** to **AQ-SC4** would reduce the magnitude of these potential impacts.
- The project's operation would not cause new violations of any NO₂, SO₂, PM_{2.5} or CO ambient air quality standards, and therefore, the project direct operational NO_x, SO_x, PM_{2.5} and CO emission impacts would not be adverse.
- The project's direct and indirect, or secondary emissions contribution to existing violations of the ozone and PM10 ambient air quality standards are likely to be

adverse, unless they are reduced through mitigation. Mitigation measure **AQ-SC7** would mitigate the operating fugitive dust emissions to ensure that the potentially adverse ozone and PM10 impacts are reduced over the life of the project.

Overall, the air quality impacts associated with the Mitigated Ivanpah 3 and Modified I-15 Alternatives would be lower than those associated with the proposed project. Overall project air emissions for both alternatives, as compared to the proposed project, would be reduced due to the reduction in the size of the Ivanpah Unit 3 boiler, and the reduced area of ground disturbance associated with project construction. The re-location of the Ivanpah Unit 3 power block would result in a small increase in one-hour NOx emissions detected at the site boundary. However, these increased emissions would not exceed any of the regulatory thresholds, and would be very limited in duration.

Although the emissions for both alternatives would be lower than those for the proposed project, they would still cause direct, adverse impacts to air quality, and would also contribute, along with other proposed projects in the area, to a cumulative adverse impact on air quality. However, the mitigation measures discussed above would ensure that emissions would not exceed any NEPA or permitting criteria.

Greenhouse Gases

The Ivanpah Solar Electric Generating System project would emit considerably less greenhouse gas (GHG) than existing power plants and most other generation technologies, and thus would contribute to continued improvement of the overall western United States, and specifically California, electricity system GHG emission rate average. The project would lead to a net reduction in GHG emissions across the electricity system that provides energy and capacity to California. Thus, the proposed project would result in a cumulative overall reduction in GHG emissions from the state's power plants, would not worsen current conditions, and would thus not result in adverse impacts.

GHG emissions from construction activities would not be adverse for several reasons. First, the period of construction would be short-term and not ongoing during the life of the project. Additionally, the best practices control measures included in the mitigation measures, such as limiting idling times and requiring, as appropriate, equipment that meets the latest emissions standards, would further minimize greenhouse gas emissions since the use of newer equipment will increase efficiency and reduce GHG emissions and be compatible with low-carbon fuel (e.g., bio-diesel and ethanol) mandates that will likely be part of the ARB regulations to reduce GHG from construction vehicles and equipment. For all these reasons, the short-term emission of greenhouse gases during construction would be sufficiently reduced and would, therefore, not be adverse.

The Ivanpah Solar Electric Generating System project, as a solar project with a nightly shutdown, will operate less than 60% of capacity and is therefore not subject to the requirements of SB 1368 and the Greenhouse Gas Emission Performance Standard.

However, the Ivanpah Solar Electric Generating System project would easily meet the requirements of SB 1368 and the Greenhouse Gas Emission Performance Standard.

Overall, the emission of greenhouse gases associated with the Mitigated Ivanpah 3 and Modified I-15 Alternatives would be lower than those associated with the proposed project, due to the reduction in the size of the Ivanpah Unit 3 boiler, elimination of an emergency generator, and reduced construction duration associated with the alternatives. However, the Mitigated Ivanpah 3 and Modified I-15 Alternatives would also produce less power output, 370 MW versus 400 MW for the proposed project. As a result, the alternatives would not achieve the same level of beneficial impact of the proposed project in displacing emissions associated with fossil fuel-generating plants.

Biological Resources

The proposed project would have direct, adverse impacts to 4,073 acres of desert tortoise habitat, which would require state and federal endangered species “take” authorizations. The tortoises present in the ROW area would be removed and translocated to an area to the west of the project site. In addition to the direct loss of tortoise habitat, the proposed project would also fragment and degrade adjacent habitat, and could promote the spread of invasive plants and desert tortoise predators (ravens). The proposed project would also directly impact breeding and/or foraging habitat for other special-status wildlife species, including burrowing owl, loggerhead shrike, Crissal thrasher, golden eagle, and American badger. The proposed project would also impact vegetation in the 4,073-acre project area, including one species considered sensitive by BLM (the Rusby’s desert-mallow). Finally, the proposed project would adversely impact ephemeral drainages through site grading, compaction, and construction of infrastructure within drainage channels. Although the proposed project construction method, Low Impact Development, would be designed to minimize direct impacts to these drainages, it is assumed that all 2,000 ephemeral drainages (198 acres of waters of the state) would be impacted, and would subject to a streambed alteration agreement with the CDFG. For each of these NEPA impacts identified, mitigation measures that have been proposed by the applicant, Energy Commission staff, other state and federal agencies, and BLM have been developed.

In addition to the evaluation of impacts under NEPA, the analysis of biological impacts of the proposed project in the DEIS included an evaluation of impacts to species considered sensitive under CEQA by the Energy Commission, including plant species listed by the California Native Plant Society (CNPS). For these species, the Energy Commission staff proposed additional Conditions of Certification to reduce the identified impacts. Implementation of these additional Conditions of Certification on public lands would require BLM consent.

The Mitigated Ivanpah 3 alternative would reduce surface disturbance impacts by a total of 433 acres. Of this total, 433 acres located along the northern portion of the proposed Ivanpah 3 site would be removed from the project, preserving an area of diverse, relatively undisturbed native habitat that contains few noxious or invasive weeds. The habitat contains numerous ephemeral drainages, adding to the locations diversity. Many of sensitive species, including desert tortoise utilize this area.

The Mitigated Ivanpah 3 Alternative was developed, in part, to reduce the impacts to wildlife and special status species. By reducing the project footprint by approximately 12.5 percent, the Mitigated Ivanpah 3 Alternative would result in a reduction in impacts to wildlife and special status species. Since the 433-acre area that would remain undisturbed is considered of relatively high quality and diverse native habitat, the benefits would be greater than avoidance of comparable acreage in other, lower quality habitat areas. Further, the location and magnitude of the Mitigated Ivanpah 3 Alternative helps retain large-scale ecological processes and migration corridors that are beneficial to wildlife species.

While the impacts from the Mitigated Ivanpah 3 Alternative would be less and would preserve some of the highest quality habitat, there would be long-term impacts to biological resources in comparison with the No Action Alternative.

The reconfiguration of the proposed Ivanpah Unit 3 to a site adjacent to I-15 would likely result in a reduction in overall impacts to biological resources. For desert tortoise, the Modified I-15 Alternative site would be located within an area already impacted by the proximity of the highway. It is estimated that 315 acres of the reconfigured location of Ivanpah Unit 3, equivalent to 25 percent of the Unit, is adversely impacted by the presence of the highway. Habitat is variable, with areas located below 2,750-feet in elevation consisting of lower quality habitat due to terrain (flat topography with fewer washes), lower forage quality, and proximity to the highway. Fewer tortoises and burrows have been reported at the alternative site (Berry 1984, Cashen 2010), although formal surveys have not been conducted. Consequently, the co-location of the Modified I-15 Alternative with the highway, coupled with fewer acres of high quality tortoise habitat, would likely result in fewer impacts to desert tortoise. Further, some of the highest densities of desert tortoise and highest quality habitat in the project area (the proposed Ivanpah Unit 3 site) would be avoided. Overall, impacts from the Modified I-15 Alternative likely would be less than the proposed project, but would remain greater than the No Action Alternative. Formal consultation with the USFWS will be required for desert tortoise impacts.

Reconfiguration of the Ivanpah Unit 3 site to the Modified I-15 Alternative site co-locates major facilities, while avoiding impacts to the northern portion of the proposed project area. As a consequence, movement corridors between mountainous areas north of the project area remain broad and relatively undisturbed. Human activities associated with the project are less likely to adversely impact big game species, including desert bighorn sheep, as well as other species (e.g., birds, bats) associated with mountainous habitats. Co-location would also reduce habitat fragmentation, leaving large portions of higher quality contiguous habitat intact.

Because the Modified I-15 Alternative would result in direct and indirect affects to wildlife species (e.g., vehicle-wildlife collisions, lower habitat quality within the highway easement, noise, artificial lighting), co-location would reduce adverse impacts to biological resources, while avoiding high quality habitat along the northern portion of the project area.

While some of the habitat within the Modified I-15 Alternative is similar in quality to the Ivanpah Unit 3 site, much of the alternative's habitat located below 2,750-feet in

elevation is less diverse and of lower quality than that associated with the proposed project. Although surveys have not been conducted, it is anticipated that there would be fewer acres capable of sustaining rare plant communities, compared to the original Ivanpah Unit 3 site in the proposed project.

The Modified I-15 Alternative was developed, in part, to reduce the impacts to wildlife and special status species by reconfiguring Ivanpah Unit 3 in an area which may have fewer desert tortoises than the location of Ivanpah Unit 3 in the proposed project. The Modified I-15 Alternative likely would reduce impacts to desert tortoise, and also probably to rare plant species, although field surveys would be necessary to confirm this assessment. Big game and other wildlife species would benefit from co-location with the highway, minimizing habitat fragmentation, retaining movement corridors, and avoiding impacts to high quality habitat along the northern portion of the proposed project.

While the impacts from the Modified I-15 Alternative would be less than those associated with the proposed project, there would still be long-term impacts to biological resources in comparison with the No Action Alternative.

Cultural Resources

The proposed project would have no direct or indirect adverse impacts on known or unknown, National Register of Historic Places (NRHP)-eligible archaeological, ethnographic, or built-environment resources. With the adoption and implementation of mitigation measures **CUL-8** and **CUL-9**, the cumulative effect of the proposed project on the one presently known NRHP-eligible listed resource, the Hoover Dam-to-San Bernardino transmission line (CA-SBR-10315H), would be reduced.

The implementation of mitigation measures **CUL-1** through **CUL-7** and **CUL-10** would require identification and proper management of any resources found during the course of the construction, operation, maintenance, closure, or decommissioning of the project. **CUL-1** through **CUL-7**, and **CUL-10** are intended to facilitate the identification and assessment of previously unknown archaeological resources encountered during construction-related ground disturbance and to mitigate any adverse impacts from the project on any newly found resources assessed as NRHP-eligible. To accomplish this, mitigation measures provide for the hiring of a Cultural Resources Specialist and archaeological monitors, for cultural resources awareness training for construction workers, for the archaeological and Native American monitoring of ground-disturbing activities, in particular situations, for the recovery of data from NRHP-eligible discovered archaeological deposits, for the writing of a technical archaeological report on all archaeological activities and findings, and for the curation of recovered artifacts and other data. When properly implemented and enforced, these mitigation measures would reduce any adverse impacts to previously unknown cultural resources encountered during construction or operation. Additionally, with the adoption and implementation of these mitigation measures, the ISEGS project would be in conformity with all applicable laws and regulations.

Overall, the cultural resource impacts associated with the Mitigated Ivanpah 3 and Modified I-15 Alternatives would be lower than those associated with the proposed project due to the reduced acreage that would be disturbed during construction. For the Modified I-15 Alternative, an area comprising 1,836 acres, which is the reconfigured location of Ivanpah Unit 3, has not had a cultural resources inventory conducted, and could potentially contain resources that would be impacted, and which would not be addressed by the proposed mitigation measures.

Hazardous Materials Management

Hazardous material use, storage, and transportation associated with the proposed project would not pose any direct, indirect, or cumulative adverse impact. The proposed project would be designed, constructed, and operated in compliance with applicable laws and regulations, which would protect the public from risk of exposure to an accidental release of hazardous materials. Mitigation measures would be implemented, as follows. **HAZ-1** ensures that no hazardous material would be used at the facility except as listed in the AFC, unless there is prior approval by the BLM's Authorized Officer. **HAZ-2** ensures that local emergency response services are notified of the amounts and locations of hazardous materials at the facility, **HAZ-3** requires the development of a Safety Management Plan that addresses the delivery of all liquid hazardous materials during the construction, commissioning, and operation of the project would further reduce the risk of any accidental release not specifically addressed by the proposed spill prevention mitigation measures, and further prevent the mixing of incompatible materials that could result in the generation of toxic vapors. Site security during both the construction and operation phases is addressed in **HAZ-4** and **HAZ-5**. **HAZ-6** ensures that the applicant complies with all Federal laws and regulations, regarding use, management, spills, and reporting of hazardous materials on Federal lands.

Because there is no potential for hazardous materials release to extend beyond the facility boundary, there is also no adverse impact to the environment. For any other potential impacts upon the environment, including vegetation, wildlife, air, soils, and water resulting from hazardous materials usage and disposal at the proposed facility, the reader is referred to Sections 4.1, 4.3, 4.10 and 4.14 of this EIS.

Overall, by following regulatory requirements and mitigation measures, there would be no potential impacts for the proposed project, the Mitigated Ivanpah 3 Alternative, or the Modified I-15 Alternative. Any hazards associated with hazardous materials use would be lower for the Mitigated Ivanpah 3 and Modified I-15 Alternatives than for the proposed project, due to the reduced duration of construction and reduced acreage of operations.

DOE has considered the potential environmental consequences of intentional destructive acts at the Ivanpah facility and concludes that it presents an unlikely target for an act of terrorism or sabotage and has an extremely low probability of attack. DOE notes that the environmental impact of any intentional destructive act that could occur is addressed in the impact analysis of containment incidents for hazardous materials, fire, and transportation accidents contained in Chapter 4.

Land Use

The criteria for evaluating Land Use impacts include an assessment of whether a proposed project will conflict with any applicable land use plan. The key land use plan affecting this project is the BLM's CDCA Plan of 1980, as amended (BLM 1980). In the CDCA Plan, the location of the proposed ISEGS facility includes land that is classified as Multiple-Use Class L (Limited Use). The Plan states that solar power facilities may be allowed within Limited Use areas after NEPA requirements are met. This Environmental Impact Statement acts as the mechanism for complying with those NEPA requirements.

Because solar power facilities are an allowable use of the land as it is classified in the CDCA Plan, the proposed action does not conflict with the Plan. However, the Plan also requires that newly proposed power sites that are not already included within the Plan be added to the Plan through the Plan Amendment process. The ISEGS site is not currently included within the Plan, and therefore a Plan Amendment is required to include the site as a recognized element with the Plan. The proposed Plan Amendment, and the corresponding analysis of the proposed Plan Amendment with respect to the analysis requirements contained within Chapter 7 of the Plan, is provided within Section 2 of this EIS. The amendment decision would occur after publication of the FEIS.

Large portions of the land area for Ivanpah 1, 2, and 3 and the administrative complex/logistics area are located within existing Utility Corridors D and BB. The land area for Ivanpah 3 would cover approximately 60% of the 2-mile width of Corridor D. Although the land area for Ivanpah 1 and 2, and the logistics construction area overlap and would limit much of the available area within Corridor BB, future linear facilities could still be routed through the portions of Corridor BB that are within the temporary construction logistics area that will only be used during the construction phase of the project.

The use of land associated with the ISEGS project would combine with impacts of present and reasonably foreseeable projects to result in a cumulative reduction in available land uses within the Ivanpah Valley area, and in the region.

Overall, the land use impacts associated with the Mitigated Ivanpah 3 and Modified I-15 Alternatives would be lower than those associated with the proposed project due to the reduced acreage that would be removed from other potential land uses.

Noise and Vibration

The proposed project, if built and operated in conformance with the proposed mitigation measures, would comply with all applicable noise and vibration laws and regulations for both operation and construction, and would produce no adverse noise impacts on people within the affected area, directly, indirectly, or cumulatively.

Overall, by following regulatory requirements and proposed mitigation measures, there would be no potential impacts for the proposed project, the Mitigated Ivanpah 3 Alternative, or the Modified I-15 Alternative. Any hazards associated with noise and

vibration would be lower for the Mitigated Ivanpah 3 and Modified I-15 Alternatives than for the proposed project, due to the reduced duration of construction and reduced acreage of operations.

Public Health and Safety

The analysis of potential public health risks associated with construction and operation of the ISEGS has not resulted in the identification of any adverse cancer, short-term, or long-term health effects to any members of the public, including low income and minority populations, from project toxic emissions. The analysis of potential health impacts from the proposed ISEGS uses a highly conservative methodology that accounts for impacts to the most sensitive individuals in a given population, including newborns and infants. According to the results of the health risk assessment, emissions from the ISEGS would not contribute directly or cumulatively to morbidity or mortality in any age or ethnic group residing in the project area.

Overall, by following regulatory requirements and proposed mitigation measures, there would be no potential impacts for the proposed project, the Mitigated Ivanpah 3 Alternative, or the Modified I-15 Alternative. Any potential public health threats would be lower for the Mitigated Ivanpah 3 and Modified I-15 Alternatives than for the proposed project, due to the reduced duration and acreage of construction, reduced overall level of emissions, and reduced duration of decommissioning.

Socioeconomics and Environmental Justice

No adverse socioeconomic impacts would occur as result of the construction or operation of the proposed ISEGS. The proposed ISEGS would not cause an adverse direct, indirect, or cumulative impact on population, employment, housing, public finance, local economies, or public services. The proposed ISEGS would benefit the two-county study area (San Bernardino County, California, and Clark County, Nevada) and the local project vicinity in terms of an increase in local expenditures, payrolls, and taxation during construction and operation of the facility. These activities would have a positive effect on the local and regional economy.

The impacts to socioeconomics for the Mitigated Ivanpah 3 and Modified I-15 Alternatives would be beneficial, due to the increase in local employment and tax revenues. However, the increase in employment would not result in an increase in the local population, so would not affect housing or public services. The beneficial impacts associated with the Mitigated Ivanpah 3 and Modified I-15 Alternatives would be slightly lower than those for the proposed project, due to the reduced duration of construction and decommissioning.

Soil and Water Resources

Construction, operation, and decommissioning of the proposed project could potentially impact soil and water resources. Where these potential impacts have been identified, mitigation measures are required to reduce the potential for their occurrence and their

magnitude. With these mitigation measures implemented, the project would conform with all applicable laws and regulations. Potential impacts to soil and water resources are summarized as follows:

1. The proposed project would be located on an alluvial fan where flash flooding and mass erosion could impact the project. Project-related changes to the alluvial fan hydrology could result in impacts to adjacent land users and the Ivanpah playa. The applicant completed a hydrologic study and modeling of the alluvial fan. Based on this work and subsequent confirmatory and sensitivity modeling conducted by the BLM, scour analyses have been performed to support development of a project design that can withstand flash flood flows with minimal damage to site structures and heliostats. In addition, a Drainage Erosion and Sediment Control Plan (DESCP) has been developed to mitigate the potential storm water and sediment project-related impacts. However, the calculations and assumptions used to evaluate potential storm water and sedimentation impacts are imprecise and have limitations and uncertainties associated with them. Given the uncertainty associated with the calculations, the magnitude of potential impacts that could occur cannot be determined precisely. As discussed in the Biological Resources and Recreation sections, the potential effects associated with storm water and sedimentation impacts could adversely affect habitat for a threatened species (the desert tortoise), as well as recreational use of Ivanpah Playa. Should these impacts occur, they would likely be highly controversial. Based on these factors, the proposed project could result in direct, adverse impacts. Therefore, mitigation measure **Soil&Water-5** that defines monitoring, inspection, and damage response requirements, as well as standards and procedures for re-considering the proposed storm water management approach if needed in the future.
2. The proposed project would use an air-cooled condenser for heat rejection and would recycle process wastewater from all plant equipment, including boilers and water treatment equipment, to the extent practicable. Recycling the wastewater would maximize reuse of process water and conserve freshwater. Use of this technology would substantially reduce water use and is consistent with water policy and the constitutional requirement that State water resources be put to beneficial use to the fullest extent possible.
3. There would be no adverse impacts to groundwater supply and quality. In the Ivanpah Valley Groundwater Basin, two substantial components of the basin's water balance are groundwater recharge through precipitation and groundwater loss through well pumping. Both precipitation and pumping in the basin will vary over the 50-year life of the proposed project. To ensure that the project's proposed use of groundwater does not adversely impact the beneficial uses and users of the groundwater in the basin, the project would become part of the existing groundwater monitoring and reporting program developed by San Bernardino County for the Primm Valley Golf Club. Substantial changes to groundwater levels caused by the proposed project would be documented by this monitoring and reporting program in accordance with mitigation measure **Soil&Water-6**.

Overall, the potential for soil and water impacts associated with the Mitigated Ivanpah 3 Alternative would be either the same as, or reduced from those associated with the

proposed project. Some of these potential impacts, including soil erosion associated with site grading and potential stormwater damage to the facility would be reduced substantially, because of the nature of stormwater drainage on the 433-acre northern portion of Ivanpah Unit 3 that would be eliminated. The Mitigated Ivanpah 3 Alternative would also use a reduced amount of groundwater for washing of heliostats, and would therefore reduce potential groundwater use conflicts.

The potential impacts of the Modified I-15 Alternative on soil erosion due to grading, Waters of the State, and stormwater damage to facility infrastructure cannot be fully evaluated at this time, because complete drainage channel mapping and stormwater modeling of the revised Ivanpah Unit 3 location has not been performed. However, based on a preliminary evaluation of the existing drainage mapping, stormwater modeling, and topographic maps of the area, it is likely that the soil and water impacts associated with the Modified I-15 Alternative would be either similar to or lower than those of the proposed project. The Modified I-15 Alternative would also use a reduced amount of groundwater for washing of heliostats, and would therefore reduce potential groundwater use conflicts.

Traffic and Transportation

The proposed project's potential construction and operational impacts related to the regional and local traffic and transportation system are summarized as follows:

1. During construction, project-related construction traffic would not result in an unacceptable level of service along study area roadway segments or intersections, and therefore no adverse impacts would be created by workforce traffic and truck traffic. The project would exacerbate existing congestion on I-15 on Friday afternoons in the area of Yates Well Road, resulting in an adverse impact at that time. To reduce the proposed project's construction- and operation-related contribution to congestion on northbound I-15 on Friday afternoons, mitigation measure **TRANS-1** would require a Traffic Control Plan.
2. During construction, the project would substantially increase the volume of traffic on roadways and intersections in the vicinity of recreation resources. Therefore, mitigation measure **TRANS-1** requires adequate signage along local roads and intersections to alert travelers to the presence of construction vehicles.
3. Because proposed project construction traffic has the potential to result in unexpected damage to Yates Well Road and I-15 freeway ramps, mitigation measure **TRANS-2** is required to ensure that any damage to local roadways would be repaired to pre-project levels to not present a safety hazard to motorists.
4. Saturday through Thursday during operation, workforce and truck traffic to and from the facility would not result in a substantial increase in congestion, deterioration of the existing level of service, or creation of a traffic hazard during any time in the daily traffic cycle and would therefore not have a direct, adverse impact on routes or roadway intersections that would be used to access the ISEGS site.
5. Solar radiation and light reflected from proposed project heliostats could cause a human health and safety hazard to observers in vehicles on adjacent roadways or

air traffic flying above the site, and could cause a distraction of drivers on I-15 that would lead to road hazards and to pilots of aircraft flying over the site. Mitigation measure **TRANS-3** would ensure that solar radiation and light from the heliostats does not impair the vision of motorists or pilots traveling near the site and that the potential for exposure of observers does not cause a human health and safety hazard.

6. Solar radiation and light reflected from proposed project power tower receivers is not expected to pose a human health and safety hazard to navigation of vehicles on adjacent roadways or air traffic flying above the site, but could potentially cause a distraction of drivers on I-15 that would lead to road hazards. Mitigation measure **TRANS-4** would ensure that glare from power tower receivers does not impair the view of motorists or pilots traveling near the site and that the potential for exposure of observers to light reflected from heliostats is minimized to the extent possible.
7. Because the proposed project would result in construction of structures greater than 200 feet tall in the vicinity of a proposed airport and existing military training flight route, mitigation measure **TRANS-5** is required to ensure that onsite power towers are lighted in accordance with FAA recommendations. The project would not adversely affect aircraft operations associated with any aircraft flight traffic.
8. The construction and operation of the ISEGS as proposed, with the effective implementation of mitigation measures, would ensure that the project's direct adverse traffic and transportation impacts would be avoided or reduced in magnitude.
9. Vehicle trips generated by construction and operation of the ISEGS would combine with vehicle trips generated by past, present and reasonably foreseeable projects to contribute to the existing adverse, cumulative impact of congestion on northbound I-15 on Friday afternoons.
10. With the implementation of the traffic control plan required by mitigation measure **TRANS-1**, construction and operation of the ISEGS would not cause a direct adverse impact on northbound I-15 on Friday afternoons, but would contribute to an existing cumulative adverse impact on northbound I-15 on Friday afternoons.
11. During project operation, heat exhaust from the Ivanpah 3 air cooled condenser would result in thermal plumes that would result in the potential for aircraft to experience turbulence at an altitude of 1,350 feet or less. Therefore, mitigation measure **TRANS-6** is required to ensure that thermal plumes associated with ISEGS operation do not impact aviation activities within the navigable airspace above the site.

Because the employment levels, and therefore commuting trips by workers, would be the same for the proposed project, Mitigated Ivanpah 3 Alternative, and Modified I-15 Alternative, the direct adverse impact, and contribution to cumulative adverse impacts, on Interstate 15 on Friday afternoons would be the same for each alternative. The primary difference in traffic impacts would be that the impacts associated with construction and decommissioning of the Mitigated Ivanpah 3 and Modified I-15 Alternatives would occur for a shorter duration than for the proposed project.

Transmission Line Safety and Nuisance

The proposed transmission lines are not expected to pose an aviation hazard according to current FAA criteria, and therefore it is not necessary to recommend location changes on the basis of a potential hazard to area aviation.

The potential for nuisance shocks would be minimized through grounding and other field-reducing measures that would be implemented in keeping with current SCE guidelines (reflecting standard industry practices). These field-reducing measures would maintain the generated fields within levels not associated with radio-frequency interference or audible noise.

The potential for hazardous shocks would be minimized through compliance with the height and clearance requirements of CPUC's General Order 95. Compliance with Title 14, California Code of Regulations, section 1250, would minimize fire hazards while the use of low-corona line design, together with appropriate corona-minimizing construction practices, would minimize the potential for corona noise and its related interference with radio-frequency communication in the area around the route.

Since electric or magnetic field health effects have neither been established nor ruled out for the proposed ISEGS and similar transmission lines, the public health impacts of any related field exposures cannot be characterized with certainty. The only conclusion to be reached with certainty is that the proposed lines' design and operational plan would be adequate to ensure that the generated electric and magnetic fields are managed to an extent the CPUC considers appropriate in light of the available health effects information. The long-term, mostly residential magnetic exposure of health concern in recent years would not be an issue for the proposed line given the absence of residences along the proposed route. On-site worker or public exposure would be short term and at levels expected for Southern California Edison (SCE) lines of similar design and current-carrying capacity. Such exposure is well understood and has not been established as posing a substantial human health hazard.

Since the proposed project line would be operated to minimize the health, safety, and nuisance impacts of concern, and would remain in its present route without nearby residences, the proposed design, maintenance, and construction plan would comply with the applicable laws. With implementation of the mitigation measures proposed above, direct or indirect adverse impacts would not occur.

Because the transmission lines would be the same under the proposed project, the Mitigated Ivanpah 3 Alternative, and the Modified I-15 Alternative, the potential impacts would be the same for all three alternatives. However, in each case, the potential for adverse impacts would be minimized by compliance with regulations and industry standards for operation of transmission lines.

Visual Resources

The proposed project would result in a direct adverse impact to existing scenic resource values as seen from several Key Observation Points in the Ivanpah Valley and Clark Mountains, including:

- The Primm Valley Golf Course;
- Middle-ground-distance viewpoints on Highway I-15;
- Viewpoints in the Mojave National Preserve, throughout the east face of Clark; and Mountain
- Viewpoints in the Stateline Wilderness Area, including the Umberci Mine and vicinity.

The visual impacts associated with the project would be viewed by visitors to the Mojave National Preserve and two designated wilderness areas, and a land-sailing site of regional or greater importance. The potential effects involve the unique scenic characteristics of the local landscape as indicated by the national park and wilderness designations of portions of the project viewshed; concerns expressed by public commentors to date; and a degree of uncertainty as to the level of discomfort or disability glare from the solar tower receivers.

Some of the adverse visual impacts, such as those associated with the Primm Valley Golf Course (KOPs 1 and 2), could be reduced through implementation of mitigation measures. However, potentially adverse visual impacts at the other locations cited above could not be reduced through mitigation, and would thus result in unavoidable adverse impacts.

Because the project has the potential to result in exposure of aircraft pilots, motorists, and hikers to solar radiation reflected from project heliostats and/or power tower receivers, mitigation measures **TRANS-3** and **TRANS-4** would ensure that potential glare from the project is minimized to the extent possible and does not pose a health and safety risk. The solar receiver units atop the solar power towers would generate conspicuously bright levels of glare for foreground viewers. Even with mitigation measures, glare, while not representing a hazard, could represent a visually dominant feature as seen from the viewpoints named above. Remaining glare could alter the character of views of Clark Mountain from the valley floor, affecting the public's ability to enjoy those views, though not preventing them.

The project, in combination with foreseeable future projects, could also result in adverse and unavoidable cumulative visual impacts of two kinds:

1. Cumulative impacts within the immediate project viewshed, essentially comprising foreseeable future projects in the Ivanpah Valley; and
2. Cumulative impacts of foreseeable future solar and other renewable energy projects within the southern California Mojave Desert.

The analysis establishes that the proposed project would represent a substantial change and impairment of a natural landscape that is largely intact. However, within an urban frame of reference, not all viewers would find the project disagreeable or unattractive; indeed, many viewers could find the project interesting to view due to its novelty. Overall, it would exhibit a moderate level of visual quality and would leave scenic views of Clark Mountain unobstructed physically, though strongly impaired by glare. Within an urban frame of reference, where preservation of natural landscapes is not a primary goal, this level of impact might be considered acceptable.

This fact may be relevant within the context of the cumulative impact scenario foreseen within the Ivanpah Valley, since development of any of the proposed renewable energy projects, or a preponderance of other foreseeable projects, would result in such an urbanized setting. If a number of the foreseeable cumulative projects are developed, the Ivanpah Valley landscape would, with or without the ISEGS project, quickly reach a point at which the level of scenic intactness is impaired to a *de facto* VR Class IV, low visual quality and sensitivity condition, becoming an urbanized environment, in apparent conflict with the area's Multiple-Use Class L status under the CDCA Plan and the County of San Bernardino's scenic highway policies.

As stated previously, the project would result in unavoidable adverse impacts. However, mitigation measures would minimize impacts to the greatest feasible extent.

Overall, the Mitigated Ivanpah 3 Alternative would have the same adverse impacts that would be associated with the proposed project. However, the magnitude of these impacts would be reduced due to the reduction in the number of power tower receivers, the reduction of the size of the heliostats fields, and the movement of the northern boundary of the facility further from sensitive viewing locations.

The Modified I-15 Alternative would also have the same type of adverse impacts that would be associated with the proposed project. To viewers located in the Mojave National Preserve and Stateline Wilderness to the west and north of the facility, the magnitude of these impacts would be reduced due to the reduction in the number of power tower receivers, the reduction of the size of the heliostats fields, and the reconfiguration of Ivanpah Unit 3. However, the reconfiguration of Ivanpah Unit 3 four miles to the south, to a location directly adjacent to Interstate 15, would increase the magnitude of visual impacts to viewers on Interstate 15.

Waste Management

Project wastes would be managed in compliance with all applicable waste management laws and regulations. Both construction and operation wastes would be characterized and managed as either hazardous or non-hazardous waste. All non-hazardous wastes would be recycled to the extent feasible, and nonrecyclable wastes would be collected by a licensed hauler and disposed of at a permitted solid waste disposal facility. Hazardous wastes would be accumulated onsite in accordance with accumulation time limits and then properly manifested, transported to, and disposed of at a permitted hazardous waste management facility by licensed hazardous waste collection and disposal companies. Management of the waste generated during construction and operation of the ISEGS would not result in any direct or cumulative adverse impacts, and would comply with applicable laws and regulations, if the waste management practices and mitigation measures are implemented.

Mitigation measures **WASTE-1** through **WASTE-7** would help ensure and facilitate ongoing project compliance with laws and regulations. These measures would require the project owner to do all of the following:

- Prepare Construction Waste Management and Operation Waste Management Plans detailing the types and volumes of wastes to be generated and how

wastes will be managed, recycled, and/or disposed of after generation (**WASTE-3** and **6**).

- Obtain a hazardous waste generator identification number (**WASTE-4**).
- Ensure the project site is investigated and any contamination identified is remediated as necessary, with appropriate professional and regulatory agency oversight (**WASTE-1, 2, and 7**).
- Report any waste management-related laws and regulations enforcement actions and how violations will be corrected (**WASTE-5**).
- Ensure that all spills or releases of hazardous substances are reported and cleaned-up in accordance with all applicable federal, state, and local requirements (**WASTE-7**).

The existing available capacity for the Class III landfills that may be used to manage nonhazardous project wastes exceeds 1 billion cubic yards. The total amount of nonhazardous wastes generated from construction and operation of ISEGS would contribute less than 0.1 percent of the remaining landfill capacity. Therefore, disposal of project generated non-hazardous wastes would not have an adverse impact on Class III landfill capacity.

In addition, the Class I disposal facilities that could be used for hazardous wastes generated by the construction and operation of ISEGS have a remaining capacity in excess of 68 million cubic yards (Campbell 2008). The total amount of hazardous wastes generated by the ISEGS would contribute less than 0.02 percent of the remaining permitted capacity. Therefore, impacts from disposal of ISEGS generated hazardous wastes would not have an adverse impact on the remaining capacity at Class I landfills.

Overall, by following regulatory requirements and mitigation measures, there would be no potential adverse impacts for the proposed project, the Mitigated Ivanpah 3 Alternative, or the Modified I-15 Alternative. Any hazards associated with waste generation and management would be lower for the Mitigated Ivanpah 3 and Modified I-15 Alternatives than for the proposed project, due to the reduced duration of construction, and reduced volume of materials requiring demolition.

Worker Safety and Fire Protection

By implementing the described construction safety and health and project operations and maintenance safety and health programs, as required by mitigation measures **WORKER SAFETY -1**, and **-2**; and fulfilling the requirements of mitigation measures **WORKER SAFETY-3** through **-6**, the proposed project would incorporate sufficient measures to ensure adequate levels of industrial safety and comply with applicable laws and regulations. Information initially received from the San Bernardino County Fire Department (SBCFD) indicated that the proposed project would not have adverse impacts on local fire protection and emergency response services. However, the County has provided additional information, in the form of comments on the DEIS, indicating that such an adverse impact may exist. In an attempt to rectify the

contradictory information provided by the SBCFD, BLM submitted a letter to the County requesting additional information on the specific impacts, and the County's financial estimate. As of the time of publication of this FEIS, the requested information has not been received. Although such impacts to County services may occur, neither BLM nor the County has a legal mechanism in place to require the applicant to provide funding to the County to address this impact.

Overall, by following regulatory requirements and proposed mitigation measures, there would be no potential impacts for the proposed project, the Mitigated Ivanpah 3 Alternative, or the Modified I-15 Alternative. Any hazards associated with worker safety would be lower for the Mitigated Ivanpah 3 and Modified I-15 Alternatives than for the proposed project, due to the reduced duration of construction, and reduced volume of materials requiring demolition. The risk of wildfire damage to the facility would be the same for the Mitigated Ivanpah 3 Alternative and the proposed project.

Geology, Paleontology, and Minerals

The proposed ISEGS site is located in a moderately active geologic area on the west side of Ivanpah Valley, east of the Clark Mountain Range in the eastern Mojave Desert of Southern California. The main geologic hazards at this site include ground shaking; liquefaction; settlement due to compressible soils, subsidence associated with shrinkage of clay soils, hydrocompaction, or dynamic compaction; and the presence of expansive clay soils. The applicant would comply with state requirements regarding facility design by incorporating recommendations contained in a design-level geotechnical report as required by the California Building Code (2007). In addition, the applicant would comply with Energy Commission Conditions of Certification **GEN-1**, **GEN-5**, and **CIVIL-1** (provided in **Appendix C - Facility Design**), which were recommended by Energy Commission staff in their FSA to eliminate or reduce the magnitude of these potential impacts. The design and construction of the project should have no adverse impact with respect to geologic, mineralogical, and paleontological resources.

The proposed project area is currently not used for mineral production, nor is it under claim, lease, or permit for the production of locatable, leasable, or salable minerals. Sand and gravel resources are present at the site and could potentially be a source of salable resources; however, such materials are present throughout the regional area such that the ISEGS should not have an adverse impact on the availability of such resources.

Paleontological resources have been documented within 45 miles of the project, but no fossils were found during field explorations on the solar plant sites or near the sub-station and ancillary facilities; however, pack rat middens with plant remains were found in the carbonate bedrock outcrop west of Ivanpah 3. If encountered, potential impacts to paleontological resources contained in these materials due to construction activities would be mitigated through worker training and monitoring by qualified paleontologists, as outlined in mitigation measures **PAL-1** through **PAL-7**.

Overall, the paleontological resource impacts associated with the Mitigated Ivanpah 3 Alternative would be lower than those associated with the proposed project due to the reduced acreage that would be disturbed during construction. Although the acreage would be reduced by approximately 12.5 percent, the potentially impacted area would be reduced by more than 12.5 percent, because the 433-acre area eliminated from the alternative would require extensive grading in the proposed project. Impacts on leasable and locatable mineral resources would be the same or lower for the Mitigated Ivanpah 3 Alternative than the proposed project. No hazards to either the proposed project or Mitigated Ivanpah 3 Alternative from geologic conditions would be expected.

The paleontological resource impacts associated with the Modified I-15 Alternative would also be lower than those associated with the proposed project due to the reduced acreage that would be disturbed during construction. Although the resources within the revised Ivanpah Unit 3 location have not been inventoried, they are likely to be similar to those identified and evaluated for the proposed project. Impacts on leasable and locatable mineral resources would be the same or lower for the Modified I-15 Alternative than the proposed project. No hazards to either the proposed project or Modified I-15 Alternative from geologic conditions would be expected.

Livestock Grazing

The issue of cattle grazing and grazing administration is directly applicable to the proposed project because the public lands associated with the proposed project are within an active grazing allotment. Because the proposed project would involve removal of vegetation and fencing off of the entire property, approval of the proposed project would require modifying the allotment boundaries, resulting in a minor reduction in allotment size of 4 percent. Administratively, this modification can be accomplished through BLM administrative procedures. In addition, increased traffic associated with construction and operation of the proposed project are not expected to cause injury or death to individual cattle through vehicle strikes because the livestock may well avoid the area in its entirety because of the human activities that would occur on the site. The impact would result in modification of the allotment boundaries, resulting in a minor 4 percent reduction in allotment acreage which is not considered a substantial adverse impact to foraging opportunities or to the safety of livestock.

The No Action Alternative would not have any impact on the characteristics or administration of the allotment.

The impact of the Mitigated Ivanpah 3 and Modified I-15 Alternatives on the existing Clark Mountain Grazing Lease would be direct and adverse, but would be lower than that associated with the proposed project. Any hazards associated with vehicle and equipment use in active cattle grazing areas when cattle are present would be the same for both alternatives, and would be mitigated through the use of speed limits and worker notifications.

Wild Horses and Burros

The issue of burros is directly applicable to the proposed project because the public lands associated with the proposed project coincides with a designated HMA, and because burros are known to exist in the vicinity of the proposed project location. Because the proposed project would involve removal of vegetation and fencing of the entire 3,712 acre property that would be permanently disturbed, approval of the proposed project would eliminate a small portion of the land area available for the existing burros. In addition, increased traffic associated with construction and operation of the proposed project could potentially cause injury or death to individual burros through vehicle strikes. Individual burros could also be injured or killed if they were to fall into excavations associated with project construction activities, or be fed and watered by humans in the immediate vicinity of the project footprint.

The Northern and Eastern Mojave (NEMO) Plan Amendments have established the AML in the vicinity of the proposed project area at zero, meaning BLM is actively involved in removing all burros within the area. In addition, the mitigation measures would avoid injury to burros while they may still be present in the project area or vicinity.

The No Action Alternative would not have any impact on the characteristics or administration of the burros.

Neither the proposed project, the Mitigated Ivanpah 3 Alternative, nor the Modified I-15 Alternative would have an adverse impact on wild horses or burros in the project area. Any hazards to individual burros associated with vehicle and equipment use would be the same for all three alternatives, and would be mitigated through the use of speed limits and worker notifications.

Recreation

The proposed project location itself is not specifically permitted, used, or designated for any recreational activity. The proposed location represents a small portion of the overall area available for recreation in the Mojave Desert, and although the proposed project would require re-direction of access roads to recreation areas, the magnitude of this re-direction is expected to be small. However, the issue of recreational resources is still directly applicable to the proposed project because part of the attraction of the area, historically, has been driven by easy vehicular access to an unspoiled desert viewscape. The presence of the proposed facility would likely attract some tourists who are interested in unusual and large-scale industrial operations. While the impact on the quality of outdoor recreational experience would diminish the experience of campers, hikers, hunters, and some other recreational users, it would not likely affect the larger number of local tourists which include golfers, land sailors, and visitors to the Primm casinos.

The impacts related to changes in the viewscape, contributing to the transformation of a mostly natural to a more industrial setting, would be long-term, even though the land could be potentially restored and the associated viewscape as affected by the project could be repaired following facility decommissioning.

The project could potentially impact land sailing on the Ivanpah Dry Lake surface if it were to modify stormwater and sedimentation characteristics or result in hazardous materials, waste or debris being transported to the Dry Lake. Mitigation measures in Sections 4.5, 4.10, and 4.14 would mitigate these impacts by reducing the potential for their occurrence, and by requiring monitoring and response to any identified impacts. Also, the project would not notably modify wind characteristics, or impose a visual glare hazard that would affect the health and safety of land sailors.

The No Action Alternative would not have any impact on the characteristics or administration of recreational resources.

Overall, no direct or indirect impacts on recreational use of the project area, Dry Lake bed, and surrounding areas would be expected from the proposed project, the Mitigated Ivanpah 3 Alternative, or the Modified I-15 Alternative. All three alternatives would likely provide a beneficial impact on tourism by attracting persons interested in the unusual and large-scale character of the facility. However, all three alternatives would also contribute incrementally to an increase in the industrial character of the area, which would likely result in reducing the quality of the recreational experience for many recreational users of the area.

1.8 Summary

Although the proposed project would achieve all project objectives, and generate the maximum amount of beneficial socioeconomic, greenhouse gas, and air pollutant impacts, it would also result in the greatest number and magnitude of adverse impacts. These would include impacts to Biological Resources, Soil and Water Resources, and Visual Resources that could not be completely mitigated.

Selection of the Mitigated Ivanpah 3 Alternative would accomplish all of the objectives of the purpose and need, including meeting power demand, as well as federal and state objectives for renewable energy development. It would also achieve almost all of the beneficial impacts of the proposed project, including socioeconomic benefits of increases in employment and fiscal resources, and displacement of greenhouse gas and air pollutant emissions associated with fossil-fueled power plants. While meeting these objectives and providing these beneficial impacts, the adverse impacts of the Mitigated Ivanpah 3 Alternative would be much lower than the proposed project, especially in the areas of Biological Resources, Soil and Water Resources, and Visual Resources.

Selection of the Modified I-15 Alternative would also accomplish all of the objectives of the purpose and need, including meeting power demand, as well as federal and state objectives for renewable energy development. It would also achieve almost all of the beneficial impacts of the proposed projects, including socioeconomic benefits of increases in employment and fiscal resources, and displacement of greenhouse gas and air pollutant emissions associated with fossil-fueled power plants. While meeting these objectives and providing these beneficial impacts, the adverse impacts of the Modified I-15 Alternative would be lower than the proposed project in some areas, but would be increased in other areas. With respect to Biological Resources, the Modified I-15 Alternative would have a reduced impact on high quality desert tortoise habitat, as

a result of moving Ivanpah Unit 3 to a location which partially overlaps the lower quality habitat adjacent to Interstate 15. However, impacts to Visual Resources and potential glare impacts for viewers on Interstate 15 would increase, due to the placement of heliostat fields within 1,000 feet of the highway for a distance of 1.8 miles. The Modified I-15 Alternative could also result in an increase in impacts to recreational access as compared to the proposed project, due to the greater length of existing off-highway vehicle (OHV) trails that would be included within the project footprint.

Most of the impacts associated with the Mitigated Ivanpah 3 and Modified I-15 Alternatives would be very similar to each other, based on the similar size, technology, and configuration of the facility. The only physical difference between the two alternatives would be the location of Ivanpah Unit 3, which would border the northern portion of the facility in the Mitigated Ivanpah 3 Alternative, and the southern portion of the facility in the Modified I-15 Alternative. This difference in location results in potentially different impacts to several resources, as follows:

- Biological Resources

The difference in location has the potential to impact different habitat, wildlife, and plants in the two different locations. The northern location of Ivanpah Unit 3 in the Mitigated Ivanpah 3 Alternative is likely to have a higher density of tortoises and rare plants, and therefore a higher potential for impacts, than the southern location of Ivanpah Unit 3 in the Modified I-15 Alternative.

- Land Use

Both the Mitigated Ivanpah 3 and Modified I-15 Alternatives would partially occupy designated utility corridors; however, the corridors involved are different from each other. Under the Mitigated Ivanpah 3 Alternative, Ivanpah Unit 3 would occupy a portion of utility corridor D, while Ivanpah unit 3 in the Modified I-15 Alternative would partially occupy corridor B. In both cases, portions of the corridors would remain available for other uses.

- Soil and Water

Based on a review of topographic information and stormwater modeling that covers a portion of the Modified I-15 site, it is likely that the position of the Modified I-15 site is similar to, or possibly slightly more favorable than, the Mitigated Ivanpah 3 site with respect to potential stormwater damage.

- Traffic and Transportation

The potential issue of distraction to drivers on Interstate 15 due to glare from the heliostats and power tower receivers cannot be quantified, and is difficult to predict. If this issue should occur, it would likely be more disruptive at the Modified I-15 location than the Mitigated Ivanpah 3 location, due to the closer proximity of the heliostats and power towers to Interstate 15.

- Visual Resources

With respect to the position of viewers located on Clark Mountain or the Stateline Wilderness to the north and west of the facility, visual impacts associated with

the Modified I-15 Alternative would be lower than those for the Mitigated Ivanpah 3 Alternative. This would be due to the more distal location of Ivanpah Unit 3 in the Modified I-15 Alternative. For the same reason, visual impacts to viewers on Interstate 15 would be higher for the Modified I-15 Alternative, due to the situation of Ivanpah Unit 3 within 1,000 feet of the highway, for a distance of approximately 1.8 miles.

- Recreation

Both the Mitigated Ivanpah 3 Alternative and the Modified I-15 Alternative would occupy land that currently includes designated OHV trails used for recreation. In both cases, the trails would be re-routed around the outside of the facilities. The length of trails that would be affected would be 8,100 feet (1.5 miles) for the Mitigated Ivanpah 3 Alternative, and 12,270 feet (2.4 miles) for the Modified I-15 Alternative.

Although it would have no adverse impacts, the No Action Alternative would not accomplish project objectives of meeting the demand for power, or contribute to meeting state and federal objectives for renewable energy development. It also would not provide the beneficial impacts associated with the proposed project and Mitigated Ivanpah 3 Alternative, including the socioeconomic benefits. By not contributing to the development of renewable energy, the No Action Alternative would cause the state to continue to rely on fossil-fueled energy sources, with the associated greenhouse gas and air pollutant emissions.

Public comments received on the Supplemental DEIS included additional information and opinions regarding the relative merits of the four alternatives. A detailed discussion of these comments is provided in Appendix A-2. The following summarizes the major points of the comments with respect to the selection of a preferred alternative:

- Many commentors, including the applicant, public officials, labor unions, and individuals favor the proposed project because it would meet the growing electricity needs of the region, would generate that power without releasing greenhouse gases, and would provide jobs. However, numerous other commentors, including environmental organizations and individuals, either oppose the proposed project, or desire that it be modified, due to the adverse impacts that the project would have on biological resources, visual resources, recreation, air quality, and land uses.
- The applicant and individuals provided comments in support of the Mitigated Ivanpah 3 Alternative. These comments supported this alternative for the reasons cited for the proposed project above, as well as the fact that the alternative would result in a reduction of adverse impacts to biological resources. Several of the environmental organizations and individuals who were opposed to the proposed project also opposed the Mitigated Ivanpah 3 Alternative, primarily because they felt that the reduction in adverse impacts associated with this alternative was not as great as could be achieved through the Modified I-15 Alternative.

- The Modified I-15 Alternative was supported by several environmental organizations, including the Sierra Club, primarily because placement of the facility closer to I-15 would minimize adverse impacts to biological resources. The applicant opposed the Modified I-15 Alternative for several technical and impact-related reasons. In their comments on the Supplemental DEIS, the applicant noted that the Modified I-15 Alternative would not be economically feasible for them to implement, due to the length of time that would be needed to re-design and re-configure the engineering design for the project. The applicant also cited increased visual impacts in their opposition to the Modified I-15 Alternative.
- Numerous commentors, including environmental organizations and individuals, supported the No Action Alternative. This was primarily due to concerns with placing the facility in a currently undeveloped location, the likelihood that the facility would incrementally add to industrialization of Ivanpah Valley, and the lack of suitable mitigation and compensation for desert tortoises. Some commentors, such as the Center for Biodiversity, stated a preference for the No Action Alternative, but stated that if a facility must be built, then they preferred the Modified I-15 Alternative.

Based on the comparative analysis of the ability of each alternative to meet the purpose and need, and the environmental impacts that would be associated with each alternative, the Mitigated Ivanpah 3 Alternative is identified as the preferred alternative.

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

CACA-48668, 49502, 49503, 49504

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**Notice of Availability of the Record of Decision for the Ivanpah Solar Electric
Generating System Project and Approved Plan Amendment to the California Desert
Conservation Area Plan, San Bernardino County, California.**

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of Availability.

SUMMARY: The Bureau of Land Management (BLM) announces the availability of the Record of Decision (ROD)/Approved Plan Amendment (PA) to the California Desert Conservation Area (CDCA) Plan for the Ivanpah Solar Electric Generating System (ISEGS) Project located in San Bernardino County, California. The Secretary of the Interior signed the ROD on October 7, 2010 which constitutes the final decision of the Department. The ROD/Approved PA are effective immediately.

ADDRESSES: Copies of the ROD/Approved PA have been sent to affected Federal, state, and local government agencies and to other stakeholders and are available upon request at the BLM's Needles Field Office, 1303 South Highway 95, Needles, California 92363 or via the Internet at: http://www.blm.gov/ca/st/en/fo/needles/nefo_nepa.html.

FOR FURTHER INFORMATION CONTACT: Tom Hurshman, Project Manager, at 2465 South Townsend Ave., Montrose, Colorado. 81401; phone: (970) 240-5345; e-mail: caisegs@blm.gov.

SUPPLEMENTARY INFORMATION: The ISEGS Project was proposed by Solar Partners I, Solar Partners II, Solar Partners IV, and Solar Partners VIII, LLC all subsidiaries of Bright Source Energy (BSE) who filed four right-of-way (ROW) applications on public land for development of the thermal solar power tower project. The Selected Alternative approved in the ROD is the Mitigated Ivanpah 3 Alternative that would generate 370 MW of electricity and would be located on approximately 3,472 acres of public land. The BLM will authorize the project through the issuance of four ROW grants pursuant to Title V of the Federal Land Policy and Management Act. The project site is located entirely on public land administered by the BLM, approximately 4.5 miles south of Primm, Nevada in San Bernardino County, California.

The CDCA Plan Amendment/Final Environmental Impact Statement was published on August 6, 2010 (75 FR 47619), initiating a 30-day protest period and concurrent 30-day comment period. Six protests of the proposed plan amendment and 18 comments on the project were received. Public comments and protests did not significantly change the decisions in the ROD/Approved PA. The BLM has consulted with other Federal, State and local agencies.

The California Governor's Office of Planning and Research did not identify any inconsistencies with the proposed PA and any state plans, policies or programs.

Because this decision is approved by the Secretary of the Department of the Interior, it is not subject to appeal (43 CFR 4.410(a)(3)).

Mike Pool

Deputy Director

Bureau of Land Management

AUTHORITY: 40 CFR 1506.6

RECORD OF DECISION

for the

Ivanpah Solar Electric Generating System Project

and

Associated Amendment to the California Desert Conservation Area Plan

Lead Agency:

*United States Department of the Interior
Bureau of Land Management*

*Environmental Impact Statement BLM/CA/ES-2010-010-1793 DOI FES 10-31
Case File Number: CACA-48668, CACA-49502, CACA-49503, CACA-49504*

*Ivanpah Solar Electric Generating System
Decision to Grant Right-of-Way and Amend California Desert Conservation Area Plan*

*United States Department of the Interior
Bureau of Land Management
Needles Field Office
1303 South Highway 95
Needles, CA 92363*

Cooperating Federal Agencies:

United States Department of Energy

October 2010



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Executive Summary

This document constitutes the Record of Decision (ROD) of the United States Department of the Interior (DOI) and Bureau of Land Management (BLM) for the Ivanpah Solar Electric Generating System (ISEGS) Project and Amendment to the California Desert Conservation Area (CDCA) Plan. This ROD approves the construction, operation and maintenance, and termination of the proposed ISEGS Project on public lands in San Bernardino County, California, as analyzed in the ISEGS Final Environmental Impact Statement (Final EIS), issued August 6, 2010 in the Federal Register's Environmental Protection Agency Notice of Availability. This approval will take the form of a BLM Right-of-Way (ROW) grant under Title V of the Federal Land Policy and Management Act (FLPMA) and 43 CFR Part 2800 regulations.

There are two decisions covered in this ROD:

- 1) The first decision is to amend the CDCA Plan to include the ISEGS facility as an approved power generation location under the Energy Production and Utility Corridors Element of the CDCA Plan.
- 2) The second decision is to grant four ROW authorizations for the selected Mitigated Ivanpah 3 Alternative, and to close certain routes of travel within the project site. The four ROW authorizations are:

Solar Partners I, II, and VIII, LLC	CACA-49502	Construction Logistics Area
Solar Partners II, LLC	CACA-49504	Ivanpah 1 site
Solar Partners I, LLC	CACA-48668	Ivanpah 2 site
Solar Partners VIII, LLC	CACA-49503	Ivanpah 3 site

Amendment to the CDCA Plan is required to allow a solar energy generation project on this site because it was not already identified as a site for power generation in the current Plan. The proposed CDCA Plan Amendment was reviewed by the Governor's Office of Planning and Research following the issuance of the Final EIS and was found to be consistent with State and local plans.

The decision to grant Solar Partners I, II, and VIII (herein after referred to collectively as Solar Partners) the above described ROW authorizations will allow construction of the ISEGS project. Solar Partners I, II, and VIII are identified as joint owners of the

Construction Logistics Area and that authorization is jointly held. Solar Partners, LLCs are limited liability corporations that are controlled by the same parent corporation, BrightSource Energy Partners. (Hereinafter, throughout this document all references to BrightSource Energy necessarily include the Solar Partners as the individual ROW holders). The four ROW grants will be issued for 30-year terms that are subject to renewal if the holder of the ROW is complying with the terms, conditions, and stipulations of the grant and applicable laws and regulations. BrightSource must pay fair market rental for the use and occupancy of public lands involved in the project. The grants will also be subject to the terms, conditions, and stipulations described in the Biological Opinion (BO, Appendix 2), Programmatic Agreement (PA, Appendix 3), and Compliance Monitoring Plan, Appendix 4.

The Department of Energy (DOE) was a cooperating agency during the NEPA process because the Secretary of Energy authorizes loan guarantees for a variety of types of projects. The two purposes of the loan guarantee program are to encourage commercial use in the United States of new or significantly improved energy-related technologies and to achieve substantial environmental benefits. The purpose and need for action by the DOE is to comply with its mandate under the Energy Policy Act by selecting eligible projects that meet the goals of that Act.

This ROD applies only to BLM-administered lands. The DOE is responsible for issuing its own decisions and applicable authorizations for the ISEGS Project.

Decision Rationale

These decisions fulfill legal requirements for managing public lands. Granting the ROW to BrightSource contributes to the public interest in developing renewable power to meet State and federal renewable energy goals. The stipulations in the grant ensure that authorization of the ISEGS Project will protect environmental resources and comply with environmental standards. These decisions reflect careful balancing of many competing public interests in managing public lands for public benefit. These decisions are based on comprehensive environmental analysis and full public involvement. The BLM engaged highly qualified technical experts to analyze the environmental effects of the ISEGS Project. During the scoping process and following the publication of the Draft EIS and Supplement EIS, members of the public have submitted comments that have enhanced the BLM's consideration of many environmental issues germane to the authorization of this project. The BLM, DOE, DOI, and other consulted agencies used their expertise and existing technology to address the important issues of environmental resource protection. The BLM and DOI have determined that the mitigation measures

contained in the Final EIS and the Biological Opinion (BO) avoid or minimize environmental harm to the maximum extent practicable.

1. Decisions and Authority

1.1 Background

This ROD for the ISEGS Project and Associated Amendment to the California Desert Conservation Area Plan (CDCA Plan) approves the construction, operation, maintenance, and termination (which includes decommissioning) of the proposed ISEGS Project on public lands in San Bernardino County, California, as analyzed in the ISEGS Project Final EIS and Proposed Land Use Plan Amendment and as noticed in the August 8, 2010, Federal Register. This approval will take the form of a Federal Land Policy and Management Act (FLPMA) ROW grant, issued in conformance with 43 USC Title V of FLPMA, and implementing regulations found at 43 CFR Part 2800. In order to approve the site location for the ISEGS Project, the BLM also approves a land use plan amendment to the CDCA Plan of 1980, as amended.

The ROW grants will allow BrightSource the right to use, occupy, and develop the described public lands to construct, operate, maintain, and terminate a 370 MW solar energy facility in the area that was identified and evaluated in the Final EIS. This decision is conditioned, however, on implementation of mitigation measures and monitoring programs as identified in the Final EIS, the BO issued by the United States Fish and Wildlife Service (USFWS), the PA issued by the State Historic Preservation Officer, and the issuance of all necessary local, state, and federal approvals, authorizations and permits. The Plan of Development indicates a Notice to Proceed will be first issued for construction of the common facility area and southern power unit. Construction activities in the middle and northern development units will not occur until spring of 2011 after completion of biological mitigation required in the decision.

This decision approves the ISEGS Agency Preferred Alternative as analyzed in the Final EIS, which is also referred to as the Selected Alternative in this ROD. The project site totals approximately 3,471.36 acres in the eastern part of San Bernardino County, approximately 40 miles southwest of Las Vegas, Nevada, and within four miles of the town of Primm, Nevada (see Figure 1, Appendix 5). The ISEGS Project is a development of three solar concentrating thermal power plants using fields of heliostats (elevated mirrors guided by a tracking system) to focus solar energy on boilers located on centralized power towers. The applicant proposes to develop the ISEGS project as three power plants in separate and sequential phases that are designed to generate a total of 370 MW of electricity. Ivanpah 1 will have an electrical generation capacity of 120 MW, and Ivanpah 2 and 3 will have a capacity of 125 MW each. The fourth ROW grant will include shared facilities consisting of the substation area, administration and

maintenance buildings, contractor yards, and nursery for succulents and rare plants, and will be developed during construction of the first power plant in the Construction Logistics area between Ivanpah 1 and 2. The ROW grant will also include a corridor that is 35 feet-wide and 3,911 feet long for construction of a natural gas pipeline, and authorization to use the existing Colosseum Road and Yates Well Road to access the facility (Figure 2, Appendix 5). The 3471.36 acres under the jurisdiction of the BLM is the area that will be subject to the BLM ROW grant and the amendment to the CDCA Plan.

The four ROW grants will be issued to BrightSource (via Solar Partners), each for a term of 30 years with a right of renewal so long as the lands are being used for the purposes specified in the grant. The company, may, on approval from the BLM, assign the ROW grant to another party in conformance with the Part 2800 ROW regulations. Construction of the project may be phased; however, the BLM typically requires the initiation of project construction within 18 months of the issuance of a ROW grant. In addition, initiation of construction will be conditioned on final BLM approval of the construction plans. This approval will take the form of an official Notice to Proceed (NTP) for each phase or partial phase of construction.

BrightSource cannot begin construction until compliance with federal, state and local laws and regulations is completed. Once federal, state and local approvals, permits and authorizations are obtained by BrightSource, the BLM will issue an NTP for the project. Construction of the 370-MW project is planned to begin in late 2010.

The ISEGS project is one of the first large-scale solar energy generation projects approved on public lands. The BLM worked closely with state and federal partners and the public in an unprecedented collaborative effort. Through this process, the BLM has gained insights into the complexity of permitting utility-scale renewable energy projects on diverse public lands, and the need for flexibility throughout the process. The BLM will continue to engage agency partners and the public in this constantly evolving environment.

1.1.1 Application/Applicant

BrightSource Energy is a U.S. Corporation whose business model includes the development and deployment of concentrating solar power tower technology. BrightSource's technical team pioneered solar energy nearly three decades ago as Luz International, Ltd., which was the first company in the world to build commercially viable solar thermal plants. In 2006, Luz' technical leadership joined forces with a finance and project development team to form BrightSource Energy. The combined experience of

BrightSource Energy's technical and commercial teams, provides a strong platform from which to realize the project.

BrightSource has formed limited liability corporations Solar Partners I, II, IV, and VIII (collectively, Solar Partners) for the purposes of filing ROW applications with the BLM for the use of public land. BrightSource (via Solar Partners) submitted Standard Form 299 applications with the BLM Needles Field Office for ROW grants associated with the ISEGS Project.

1.1.2 Purpose and Need for the Proposed Action

The BLM's purpose and need for the ISEGS project is to respond to the BrightSource applications (via Solar Partners) under Title V of the Federal Land Policy and Management Act (FLPMA), 43 United States Code (USC) for ROW grants to construct, operate, maintain, and terminate a concentrated solar electric generation plant on public land along with the associated infrastructure in compliance with FLPMA, BLM ROW regulations, and other applicable federal laws.

The CDCA Plan is specifically amended to read by this ROD to allow a solar energy generation facility on this site.

1.1.3 EIS Availability, 30 Day Review, Protests

The BLM prepared a Draft EIS for the applicant-proposed 400-MW project and a no action/no construction alternatives. The Draft EIS was circulated for agency and public review on November 10, 2009. The BLM also prepared a Supplemental Draft EIS, which was circulated for agency and public review on April 16, 2010. Those comments and BLM's responses are provided as appendices in the Final EIS. Comments on the Draft and Supplement Draft EIS were utilized to revise the Final EIS. After issuing this ROD, the BLM will publish a Notice of Availability of the ROD in the Federal Register.

Copies of the Final EIS (DOI Control No. 10-31), dated August 2010, are available at the BLM Needles Field Office (1303 S. Highway 95, Needles, California 92363) and the BLM California Desert District Office (22835 Calle San Juan de Los Lagos, Moreno Valley, California 92553). The Final EIS is also available online at the BLM website at: http://www.blm.gov/ca/st/en/fo/needles/nefo_nepa.html.

The FEIS was available for a 30-day public review and protest period from August 8, 2010 to September 7, 2010. The comments that were submitted on the FEIS and the

Bureau's responses thereto are included in Appendix A to the Final EIS. The protests have been resolved by the Director.

1.1.4 Authority under FLPMA and NEPA

BLM's authority for the project is the FLPMA, which establishes policies and procedures for management of public lands. In Section 102(a)(8) of the FLPMA, Congress declared that it is the policy of the United States that:

...the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use (43 USC Part 1701(a)(8)).

Section 202 of the FLPMA and the regulations implementing the FLPMA land use planning provisions (43 CFR Subparts 1601 and 1610) provide a process and direction to guide the development, amendment, and revision of land use plans for the use of the public lands.

Title V of the FLPMA, 43 USC 1761–1771, authorizes the BLM, acting on behalf of the Secretary of the Interior, to grant, issue, or renew rights-of-way over, under, and through the public lands for systems for generation, transmission, and distribution of electric energy. The BLM's implementation of its statutory direction for ROW authorizations is detailed in 43 CFR Part 2800. The Authorized Officer (AO) administers the ROW authorization and ensures compliance with the terms and conditions of the ROW grant. The AO means any employee of the Department of the Interior (DOI) to whom the authority to perform the duties described in 43 CFR Part 2800 has been delegated. This authority is derived from the authority of the Secretary of the Interior, and may be revoked at any time. The authority to approve all actions pertaining to the granting and management of Title V ROWs on public lands is delegated to the respective BLM State Directors (BLM Manual 1203, Appendix 1, p.33). In California, the authority of the BLM State Director to approve actions pertaining to the granting and management of Title V ROWs has been further delegated to the Field Manager (Barstow Field Office) who will be responsible for managing this grant. In respect to this specific ROW grant, this authority has been delegated to the Field Manager, Bureau of Land Management, Needles Field Office.

NEPA. Section 102(c) of NEPA (42 USC 4321 et seq.) and the Council on Environmental Quality (CEQ) and DOI implementing regulations (40 CFR Parts 1500–1508 and 43 CFR Part 46) provide for the integration of NEPA into agency planning to insure appropriate consideration of NEPA’s policies and to eliminate delay. When taking actions such as approving ROW grants and CDCA Plan Amendments, the BLM must comply with the applicable requirements of NEPA and the CEQ NEPA regulations. Compliance with the NEPA process is intended to assist federal officials in making decisions about a project that are based on an understanding of the environmental consequences of the project. The Draft EIS, Final EIS, and this ROD document BLM’s compliance with the requirements of NEPA for the ISEGS Project.

CDCA Plan. In furtherance of its authority under the FLPMA, BLM manages public lands in the California Desert District pursuant to the CDCA Plan, and its amendments. The CDCA Plan must be further amended to allow a solar energy generation project on the project site.

Guidance and Regulations. The BLM processes ROW applications for solar development in accordance with 43 CFR Part 2804.25 and the BLM’s 2008 “Guidance for Processing Applications for Solar Power Generation Facilities on BLM Administered Public Lands in the California Desert District” which states:

When all or part of a proposed renewable energy project is located in a designated utility corridor, the impacts of occupying the utility corridor must be analyzed, along with alternatives that would help mitigate the impacts to the utility corridor. The EIS prepared for a proposed solar energy project should analyze the impact that the project would have on the ability of the utility corridor to serve its intended purpose, i.e., would the corridor continue to retain the capacity to site additional utilities in the corridor or would the project so constrain the available land within the corridor that it would limit the corridor’s ability to locate additional linear facilities, e.g. transmission lines, pipelines, etc.

Other Authorities and Policies. In conjunction with the FLPMA, BLM authorities also include:

- Energy Policy Act (119 Statutes 594, 600), Section 211, which states “It is the sense of the Congress that the Secretary of the Interior should, before the end of the 10-year period beginning on the date of enactment of this Act, seek to have approved non-hydropower renewable energy projects located on public lands with a generation capacity of at least 10,000 megawatts of electricity.”

- BLM's Solar Energy Development Policy (April 4, 2007) which states the BLM's general policy is issued under Instruction Memorandum 2007-097 *Solar Energy Development* Policy to facilitate environmentally responsible commercial development of solar energy projects on public lands and to use solar energy systems on BLM facilities where feasible. Applications for commercial solar energy facilities will be processed as ROW authorizations under Title V of the FLPMA and Title 43, Part 2800 of the Code of Federal Regulations (CFR). Commercial concentrating solar power (CSP) or photovoltaic (PV) electric generating facilities must comply with BLM's planning, environmental, and ROW application requirements, as do other similar commercial uses.
- Executive Order 13212 (May 18, 2001) which mandates that agencies act expediently and in a manner consistent with applicable laws to increase the "...production and transmission of energy in a safe and environmentally sound manner."
- Secretarial Order 3285 (March 11, 2009), which "...establishes the development of renewable energy as a priority for the Department of the Interior."

These authorities and policies are discussed in Section 2.1 of the FEIS.

1.1.5 Information Developed since the Final Environmental Impact Statement

Since the preparation and publication of the Final EIS, there have been minor modifications to the project that have resulted in the development of new information. The specific arrangement of the infrastructure in the Construction Logistics Area and shared facilities between Ivanpah Units 1 and 2 has been slightly modified. This modification is entirely inside the footprint analyzed within the Final EIS, and has resulted in a reduction in the overall acreage associated with approval of the four ROW grants. Specifically, the acreage evaluated in the Final EIS for the Mitigated Ivanpah 3 Alternative (Agency Preferred Alternative) totaled 3,564 acres; the acreage for the revised Mitigated Ivanpah 3 Alternative (now the Selected Alternative) totals 3,471.36 acres.

There have also been changes in the translocation requirements developed by the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) associated with compensation for the use of desert tortoise habitat. In August 2010, the USFWS developed revised Translocation of Desert Tortoises (Mojave Population) From Project Sites: Plan Development Guidance, which is expected to be

more protective than the translocation plan as discussed in Section 4.3.2.1.4 of the Final EIS. These revised guidelines require disease testing and health assessments for tortoises being moved and for tortoises in the resident population of the receiving area. Additionally, testing and monitoring of a control population are required components of the translocation plan. The Ivanpah tortoises that are to be translocated in the initial phase of construction in the fall of 2010 will be held in quarantine until health assessments and blood testing are complete and the tortoise can be moved the following spring.

1.2 Decisions Being Made (40 CFR 1505.2(a))

1.2.1 Bureau of Land Management Right-of-Way Grant

Under federal law, the BLM is responsible for processing requests for ROW grant applications to determine whether, and under what terms and conditions, to authorize proposed projects such as renewable energy projects, transmission lines, and other appurtenant facilities on land it manages. Because the project is a privately initiated venture that will be sited on lands managed by the BLM, BrightSource Energy (the applicant), applied for ROW grants from BLM pursuant to DOI regulations. The four approved ROW grants include conditions based on the Final EIS, the Biological Opinion, the Programmatic Agreement, and other federal rules and regulations applicable to federal lands. On approval of the ROW grants, the applicant will be authorized to construct and operate the 370-MW project if it meets the requirements specified in the ROD. The ROD requires the applicant to secure certification from the California Energy Commission (CEC) before the BLM will issue a Notice to Proceed (NTP) to the applicant. On receipt of the NTP, the applicant will be authorized to construct and operate the 370-MW project on the project 3,471.36 acre site. To the extent the Selected Alternative does not progress to construction, operation, or is proposed to be changed to the extent that it appears to the BLM to be a new project proposal on the approved project site, that proposal is subject to NEPA review.

1.2.2 Land Use Plan Amendment

1.2.2.1 California Desert Conservation Area Plan

The management of BLM lands in the California Desert District is governed by the CDCA Plan. The CDCA Plan, while recognizing the potential compatibility of solar

generation facilities on public lands, requires that all sites associated with power generation or transmission not specifically identified in the CDCA Plan for a specific project site be considered through the CDCA Plan Amendment process. The Planning Criteria for considering a CDCA Plan Amendment are discussed in detail in Chapter 4.10, Land Use and Corridor Analysis, in the Final EIS, and in Chapter 7 of the CDCA Plan.

The project site is currently classified as Multiple-Use Class L (Limited Use) in the CDCA Plan. That classification is intended to protect sensitive, natural, scenic, ecological, and cultural resource values. Public lands classified as Limited Use are managed to provide for multiple use of resources at a lower intensity, ensuring that sensitive values are not significantly diminished.

Based on the Multiple Use Class Guidelines provided in Table 1 in the CDCA Plan, solar uses are conditionally allowed in the Multiple Use Class L designation contingent on NEPA requirements being met for the proposed use. The Final EIS and ROD for the 370 MW project meet NEPA requirements for consideration of the project as described in detail in the Final EIS, Section 4.20. The CDCA Plan is specifically amended by this ROD to allow a solar energy generation facility on this site.

1.2.2.2 Guidance for Processing Applications on BLM Lands

Pursuant to the Guidance for Processing Applications for Solar Power Generation Facilities on BLM Administered Public Lands in the California Desert District (BLM 2008) and 43 CFR Part 2804.25:

“When all or part of a proposed renewable energy project is located in a designated utility corridor, the impacts of occupying the utility corridor must be analyzed, along with alternatives that would help mitigate the impacts to the utility corridor. The EIS prepared for a proposed solar energy project should analyze the impact that the project would have on the ability of the utility corridor to serve its intended purpose, i.e., would the corridor continue to retain the capacity to site additional utilities in the corridor or would the project so constrain the available land within the corridor that it would limit the corridor’s ability to locate additional linear facilities, e.g. transmission lines, pipelines, etc.”

As discussed in Section 4.6.2.1, Utility Corridors, in the Final EIS, the project site is within existing designated Utility Corridor “D” and “BB” Section 368 115-238 (CDCA N, 368 115-238). The site occupies approximately 60 percent of the two-mile width of Corridor “D”, less than five percent of the southern portion of Corridor “BB”, and 100 percent of the northern portion of Corridor “BB”. Although the project will occupy 100 percent of the northern portion of Corridor “BB”, it will not preclude future use of that corridor for other utilities.

The potential project impacts related to occupying a utility corridor are evaluated in Section 4.6.2.1, Utility Corridors, in the Final EIS. In the immediate vicinity of the project site and in Utility Corridors "D" and "BB", additional capacity is available for future projects. Joint use of the corridors is adequate to accommodate the 370 MW project and its ancillary facilities, as well as current authorized but yet unbuilt and projects which are in planning and development.

1.2.3 Revisions to Open Routes

In 2002, the BLM updated access plans and routes in the *Northern and Eastern Mojave Desert Management Plan* (NEMO) Amendment to the CDCA Plan. The NEMO Amendment assigned and/or revised access for off-highway vehicle (OHV) routes in the northern and eastern Mojave Desert. Currently, there are three open routes traversing the project site: Routes 699226 (7,200 feet affected), 699198 (6,500 feet affected), and Colosseum Road (5,000 feet affected). As part of project construction, the portions of these routes within the project boundaries will be closed as the phased construction and fencing of the project occurs.

The process for changing routes is described in the CDCA Plan Motorized Vehicle Access Element and the BLM guidance on the Comprehensive Travel and Transportation Management (CTTM) program. Pursuant to BLM Instruction Memorandum No. 2008-014 - Clarification of Guidance and Integration of Comprehensive Travel and Transportation Management Planning into the Land Use Planning Selection – the designation of individual routes within a Limited area is an implementation process that may be completed concurrent with the Land Use Plan but is not a Land Use Plan decision. Changes to a travel network in a Limited area may be made through activity level planning or with site-specific National Environmental Policy Act (NEPA) analysis. They do not require a Land Use Plan amendment. Therefore, revision processes recognize the changing contexts and need for flexibility in allowing OHV public access on BLM-managed lands. The Motorized Vehicle Access Element of the CDCA Plan (page 82) describes the process for changing the designations of vehicle access routes as:

"Decisions affecting vehicle access, such as area designations and specific route limitations, are intended to meet present access needs and protect sensitive resources. Future access needs or protection requirements may require changes in these designations or limitations, or the construction of new routes...Access needs for other uses, such as roads to private lands, grazing developments, competitive events, or communication sites, will be reviewed on an individual basis under the authority outlined in Title V of FLPMA and other appropriate regulations. Each proposal would be evaluated for environmental effects and

subjected to public review and comment. As present access needs become obsolete or as considerable adverse impacts are identified through the monitoring program, area designations or route limitations will be revised. In all instances, new routes for permanent or temporary use would be selected to minimize resource damage and use conflicts, in keeping with the criteria of 43 CFR 8342.1.”

The administrative process for revising route designations given the evolving and changing priorities for lands under its control is provided in the CTTM and Land Use Planning (LUP) programs. Therefore, this administrative process along with the administrative process described in the CDCA Plan, and as allowed under Title V of the FLPMA, will be implemented to revise the affected segments of the open routes within the project site to closed routes. In addition, the perimeter maintenance roadways authorized under non-exclusive FLPMA right-of-way grants, will be allowed to remain open for public use to connect around the perimeter of the solar facility to mitigate for the loss of closed routes for the term of the right-of-way grants. Upon decommissioning of the project, BLM will revisit the travel needs of the area, and determine whether further changes are needed.

1.2.4 What is Not Being Approved

The applicant filed four ROW applications totaling 3,400 acres with BLM for the ISEGS project on August 29, 2007. The applications proposed using BrightSource’s solar thermal technology to develop ISEGS as three separate power plants on three separate ROWs, and using a fourth ROW as a location for common areas and facilities. Each power plant would use a field of mirrors, called heliostats, to reflect sunlight to a boiler on top of a centrally-located power tower. Since the original application, as part of the environmental review process, the applicant has modified the size of the footprint of the proposed facility, and modified the arrangement of infrastructure within the facility boundaries. However, the basic size, proposed technology, and project design of three power plants surrounding a common-use area has remained the same. The major project modifications that have occurred since the original application include:

- In May 2008, the applicant revised their proposed configuration of mirrors within the heliostat fields. This resulted in a reduction in the number of heliostats, but an increase in the proposed project acreage to 3,700 acres.
- In June 2008 and May 2009, in response to the development of more detailed engineering requirements associated with stormwater management, the applicant revised the acreage of the requested ROW area up to 4,073 acres. The result from the May 2009 revision was evaluated in the Draft, Supplemental Draft, and Final EISs as the applicant’s proposed project.

- In February 2010, the applicant provided a detailed project description of a reduced acreage alternative, designated in the Supplemental DEIS as the Mitigated Ivanpah 3 Alternative, for detailed evaluation in the EIS. That modification reconfigured the boundary between Ivanpah Units 2 and 3, moved the northern boundary 1,900 feet to the east of where it had been located in the proposed project, reduced the number of power towers in Unit 3 from five to one, and reduced the power output from 400 to 370 MW. The modification was designed specifically to reduce impacts to biological resources in the northern portion of the proposed project area.
- Also in February 2010, the applicant provided an outline of how the project boundaries could potentially be modified closer to I-15. This outline was used as the basis for BLM's analysis of the Modified I-15 Alternative in the Supplemental DEIS and the Final EIS.

As a result of BLM's selection of the Mitigated Ivanpah 3 Alternative as the Selected Alternative, this ROD does not approve the following:

- The original August 2007 application.
- The applicant's proposed project. This includes the 433 acre northern portion of Ivanpah Unit 3 which was included within the footprint of the proposed project, but not included within the Mitigated Ivanpah 3 Alternative. By not being approved for any use in this ROW grant and Plan amendment, that 433 acre area will continue to be managed by BLM in accordance with the agency's multiple-use mandate, and within the parameters of the CDCA Plan. This could potentially include consideration of this area for a different solar ROW application.
- The Modified I-15 Alternative.
- Any of the other proposed alternatives

1.3 Right-of-Way Requirements (43 USC 1764; 1765)

SF 2800-14 BLM (Right-of-Way Lease/Grant), the instrument to authorize the right-of-way grant for the project, includes the POD and all other terms, conditions, stipulations, and measures required as part of the grant authorization. Consistent with BLM policy, the ISEGS energy development ROW grants will include a due diligence and performance bonding requirement for installation of facilities consistent with the approved POD. Construction of the ISEGS solar energy facilities must commence within 3 years after the effective date of the ROW grants, as well as beginning construction for subsequent phases, for the ROW holder to be compliant with use of the grants.

1.4 Summary of Conclusions

The Selected Alternative for the ISEGS project is the alternative that provides the most public benefits and avoids the most resource impacts for the following reasons:

- The Selected Alternative would reduce the acreage associated with Ivanpah Unit 3 by moving the northern boundary of the ROW grant approximately 1900 feet south of its location in the proposed project, resulting in a reduction of 433 acres of disturbance in that area
- The 433-acre area that would be eliminated from the proposed project alternative would be designated as the Northern Rare Plant Mitigation Area (BSE 2010a).
- The Selected Alternative would also eliminate the need to grade approximately 109 acres within the 377-acre CLA area.
- The Selected Alternative is a reduction of about 15% from the original project footprint.
- The Selected Alternative would require approximately 40,000 fewer heliostats than the proposed project, or a total of 173,500. The reduction would be reached by not installing heliostats in the 433 acre northern portion of Ivanpah Unit 3.
- The number of power towers is reduced to one in Unit 3 of the Selected Alternatives.
- The volume of water required to support the Selected Alternative would be slightly reduced from that required for the proposed project. This reduction would be due to the reduced number of heliostats that require washing in the Selected Alternative. Because the reduction in the number of heliostats is approximately 18.7 percent, and heliostat washing is the largest use of water during operations, it is estimated that the volume of water required for operations would be reduced by about 18.7 percent.
- Overall, the Selected Alternative would result in a shorter, less obtrusive re-routing of trail 699226 than would be associated with the proposed project.
- The revised northern boundary of Unit 3 in the Selected Alternative was designed, in part, to avoid the installation of heliostat fields in the most active drainages in this area. Accordingly, the Selected Alternative would require an amount of grading, site disturbance, vegetation removal, and soil compaction that

is substantially reduced from that associated with the proposed project (BSE 2010a).

- The construction equipment used for both alternatives would be the same; however, the areas and duration needed for the use of grading equipment would be reduced for the Selected Alternative.
- The primary difference is that the Selected Alternative is expected to generate a reduced volume of non-hazardous wastes, as compared to the proposed project. This is due to the reduced size of the Selected Alternative, including construction of three power tower receivers instead of seven, and installation of 40,000 fewer heliostats (BSE 2010a).

2. Mitigation and Monitoring

2.1 Required Mitigation

The ISEGS Project includes the following measures, terms, and conditions:

- Those Mitigation Measures from Chapter 4, Affected Environment and Environmental Consequences, in the Final EIS, which are adopted by BLM. Those measures which are adopted are specified in Appendix 6.
- Terms and Conditions in the Biological Opinion provided in Appendix 2, Biological Opinion.
- Terms and Conditions in the Programmatic Agreement provided in Appendix 3, Programmatic Agreement.

The complete language of these measures, terms, and conditions is provided in the Plan of Development (POD) for the 370 MW Selected Alternative and is contained in Appendix 4 of this ROD (the Compliance Monitoring Plan). The BLM has incorporated these requirements into these ROW grants as terms and conditions. The measures, terms, and conditions included in Appendix 4 are determined to be in the public interest pursuant to 43 CFR 2805.10(a)(1).

2.2 Monitoring and Enforcement (40 CFR 1505.2(c))

A monitoring and enforcement program shall be adopted and summarized where applicable for any mitigation (40 CFR 1505.2(c)). Agencies may provide for monitoring to assure that their decisions are carried out and should do so in important cases. Mitigation and other conditions established in the Final EIS or during its review and committed as part of the decision shall be implemented by the lead agency or other appropriate consenting agency. The lead agency shall:

- a. Include appropriate conditions in grants, permits or other approvals;
- b. Condition funding of actions on mitigation;
- c. Upon request, inform cooperating or commenting agencies on progress in carrying out mitigation measures they have proposed and that were adopted by the agency making the decision; and
- d. Upon request, make available to the public the results of relevant monitoring (40 CFR 1505.3).

The Compliance Monitoring Plan for the ISEGS Project is provided in Appendix 4 of this ROD.

The BLM is the federal lead agency for the ISEGS Project under the National Environmental Policy Act (NEPA). The BLM is responsible for ensuring compliance with all adopted mitigation measures for the ISEGS project in the Final EIS. The complete language of all the measures is provided in the POD, and in Appendix 4, Compliance Monitoring Plan. The BLM has also incorporated this mitigation into these ROW grants as terms and conditions. Failure on the part of Solar Partners, as the grant holder, to adhere to these terms and conditions could result in various administrative actions up to and including suspension and even termination of the ROW grants and requirements to remove the facility and rehabilitate disturbances.

2.3 Mitigation Measures Not Adopted (40 CFR 1505.2(c))

As discussed above, a Compliance Monitoring Plan for the project has been adopted and is provided in Appendix 4 to this ROD. There are no BLM identified mitigation measures that have not been adopted in this ROD.

2.4 Statement of All Practicable Mitigation Adopted (BLM H-1790, p.104; 40 CFR 1505.2(c))

As required in the BLM *NEPA Handbook H-1790-1* and 40 CFR 1505.2(c), all practicable mitigation measures that are necessary to fully mitigate the potential effects of the project according to federal laws, rules, policies and regulations have been adopted by this ROD for the ISEGS project. The complete language of those measures is provided in Appendix 6 of this ROD. Additional mitigation may be necessary to fully mitigate potential effects of the project according to State laws (including the California Environmental Quality Act), rules, policy, or regulations.

2.5 Coordination with other BLM Monitoring Activities

In 2007, the BLM and the California Energy Commission (CEC) formalized a Memorandum of Understanding (MOU) for the joint environmental review of solar thermal power plant projects to be located on public lands. In September 2010, that MOU was amended to ensure that jointly reviewed and approved solar thermal power plant projects, located on public lands, are constructed, operated, maintained, and terminated in conformity with the decisions issued by the BLM and the CEC.

The MOU Amendment specifically indicates that it is in the interest of the BLM and CEC

...to share in construction compliance, environmental compliance, design review, plan check, and construction, maintenance, operation and termination inspection (collectively "compliance review") of solar thermal power plant projects on public lands, to avoid duplication of staff efforts, to share staff expertise and information, to promote intergovernmental coordination at the state and federal levels, to develop a more efficient compliance review process, and to meet state and federal requirements.

As documented in the MOU Amendment, BLM will provide primary compliance oversight for the right-of-way terms and conditions that are required by the BLM and that are separate and apart from those for which the primary oversight is being administered by the CEC. CEC routinely monitors compliance with State and local building codes and requirements through the Chief Building Official selected for the project.

As part of the MOU Amendment, the BLM and CEC agree to communicate and cooperate in a manner in order to avoid duplication of efforts and to assist each other in effective implementation of compliance efforts for the construction, maintenance, operation, and termination of the ISEGS project.

The MOU Amendment is an attachment to the Compliance Monitoring Plan which is provided in Appendix 4.

The BLM is also developing a protocol for long-term monitoring of solar energy development with Argonne National Laboratories, and the U.S. Department of Energy. The draft protocol recommends the development of a comprehensive monitoring program covering a broad list of resources. The draft protocol also recommends the involvement of other federal agencies, including the National Park Service and the U. S. Fish and Wildlife Service, and state agencies with a likely interest in long-term monitoring, as well as stakeholder engagement. As the protocols are finalized for this program, the BLM expects to participate fully in these endeavors and to engage solar energy applicants and other federal and state agencies. As long term monitoring plans evolve, the BLM and its assigns may exercise the United States' retained right to access the lands covered by the grant, and conduct long-term monitoring activities.

3. Management Considerations

3.1 Decision Rationale

This decision approves four separate ROW grants for the ISEGS Project in accordance with the Agency Preferred Alternative (Selected Alternative) as analyzed in the Final EIS. The BLM decision to authorize this activity is based on the rationale described in the following sections.

3.1.1 Respond to Purpose and Need

Approval of the ROW grants for the Selected Alternative responds to BLM's purpose and need for the ISEGS project by responding to the BrightSource applications under Title V of the Federal Land Policy and Management Act (FLPMA) (43 United States Code [USC] 1701) for four separate ROW grants to construct, operate, maintain, and terminate a solar energy generation facility on public lands in compliance with the FLPMA, BLM ROW regulations, and other applicable federal laws.

The CDCA Plan, while recognizing the potential compatibility of solar generation facilities on public lands, requires that all sites associated with power generation or transmission not already identified in that plan be considered through the plan amendment process. Therefore, prior to issuance of a ROW grant for the ISEGS project, the BLM will amend the CDCA Plan as required to allow for that solar use on the project site.

Under the Energy Policy Act (2005), federal agencies are directed to encourage the development of renewable energy. By entering into a Memorandum of Understanding (MOU) with the California Energy Commission (CEC), National Park Service (NPS), United States Department of Energy (DOE), and the United States Army Corps of Engineers (Corps), the BLM has committed to work with State and federal agencies to achieve California's Renewable Portfolio Standards (RPS) energy goals and greenhouse gas emission reduction standards in a manner that is timely and in compliance with federal and State environmental laws. The purpose of the MOU is to assist with the implementation of applicable State and federal laws, regulations, and policies.

The construction, operation, maintenance, and termination activities associated with the Selected Alternative, either singularly or with mitigation, are in conformance with the following land use plans and policies:

- BLM policy and guidance for issuing ROW grants, including BLM Manual 2801.11;
- *California Desert Conservation Area Plan* (1980, as amended); a plan amendment is required to identify the site as one used for solar generation within the CDCA; and,
- *Northern and Eastern Mojave Desert Management Plan* (NEMO) Amendment to the CDCA Plan.

The ISEGS 370-MW Mitigated Alternative 3 meets the BLM purpose and need for the project.

3.1.2 Achieve Goals and Objectives

The 370-MW Selected Alternative meets all project objectives, and is technically and legally feasible. It also helps meet federal and state objectives for renewable energy development. The Selected Alternative provides for the best balance between maximizing renewable energy capacity while reducing adverse impacts as compared to the other action alternatives. The project complies with CDCA Plan objectives (discussed in Section 3.1.4 below).

3.1.3 Required Actions

The following federal statutes require that specific actions be completed prior to issuance of a ROD and project approval:

3.1.3.1 Endangered Species Act of 1973

Under Section 7 of the Endangered Species Act (ESA), as amended (16 United States Code [USC] 1531 et seq.), a federal agency that authorizes, funds, or carries out a project that “may affect” a listed species or its critical habitat must consult with the USFWS. The BLM prepared a Biological Assessment for the USFWS in accordance with Section 7 of the ESA for potential effects to the listed desert tortoise. The USFWS has issued a Biological Opinion (BO) for the project which is provided in Appendix 2, Biological Opinion, in this ROD. Measures included in the BO would reduce any anticipated adverse impacts, and the BLM’s issuance of an NTP will require that BrightSource complies with the BO. Furthermore, the ROW grant contains a standard stipulation that requires compliance with the BO.

3.1.3.2 Bald and Golden Eagle Protection Act

This Act provides for the protection of bald and golden eagles by prohibiting, except under certain specified conditions, disturbance or harm of these species. To comply with the Act and based on the US Fish and Wildlife Service’s recommendation (memo dated September 15, 2010, available as part of the project record), and in accordance with BLM’s Instruction Memorandum (IM) 2010-156, the BLM will require BrightSource to develop an Avian Protection Plan (APP) within six months of initiating facility construction. This APP will identify steps BrightSource will take to ensure eagle impacts are mitigated to the extent possible including but not limited to on-going surveys, impact monitoring, and facility design.

3.1.3.3 National Historic Preservation Act

The Section 106 process has been completed for the ISEGS project. Section 106 compliance is in accordance with the Programmatic Agreement (PA, pursuant to 36 CFR 800.14(b)) executed by signature through the BLM and the California and Nevada State Historical Preservation Officers (SHPO), the Advisory Council for Historic Preservation, and other signatures in September 2010. The PA is provided in Appendix 3, Programmatic Agreement.

3.1.3.4 Clean Air Act as Amended in 1990

Title 40 CFR Section 51 (Subpart W - Determining Conformity of General Federal Actions to State or Federal Implementation Plans), Title 40 CFR Section 93 (Subpart B - Determining Conformity of General Federal Actions to State or Federal Implementation Plans) and 42 USC Section 7606(c) require federal actions to comply with the requirements of the Clean Air Act (CAA). The ISEGS project is expected to meet the requirements of the CAA based on compliance. The NTP issued by the BLM is contingent upon BrightSource obtaining any necessary permits and compliance of the ISEGS Project with any mitigation, terms, conditions, and stipulations related to emission controls and reductions during project construction, maintenance, operation, and decommissioning, as determined by the applicable state permitting authority.

3.1.3.5 Clean Water Act

Section 404 of the Federal Clean Water Act (CWA) authorizes the U.S. Army Corps of Engineers to regulate the discharge of dredged or fill materials into navigable waters of the United States (waters of the U.S.), including certain wetlands and other waters of the U.S. The Corps has determined that the Selected Alternative does not involve discharge of these materials into the waters of the United States, and is therefore in compliance with the CWA.

3.1.4 Incorporation of CDCA Plan Considerations

An amendment to the CDCA Plan is warranted. The record indicates that the Selected Alternative for the ISEGS project can be constructed on BLM-administered lands and that project construction will result in fewer significant, unmitigable impacts to biological, cultural, water, and visual resources than would occur with the other Build Alternatives with comparable energy production analyzed in the Final EIS.

3.1.5 Identify Site Location per CDCA Plan

The BLM has found that the lands in the Selected Alternative can be designated for solar energy development based on compliance with the requirements of NEPA. The CDCA Plan amendment applies to the public lands within the boundary of the site for the Selected Alternative as shown in Figure 3, Appendix 5, and as specified below.

Legal Description Acres

San Bernardino Base and Meridian

Solar Partners II, LLC CACA-49504

Ivanpah 1 Site 914.03 ac.

T. 16 N., R. 14 E.,

sec. 2, lots 1 and 2 in the NW $\frac{1}{4}$, lots 1 and 2 in the NW $\frac{1}{4}$, , SW $\frac{1}{4}$, and W $\frac{1}{2}$ SE $\frac{1}{4}$;

sec. 3, lots 1 and 2, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, and SE $\frac{1}{4}$;

sec. 10, NE $\frac{1}{4}$, E $\frac{1}{2}$ NW $\frac{1}{4}$;

sec. 11, NW $\frac{1}{4}$ NE $\frac{1}{4}$, NW $\frac{1}{4}$.

Solar Partners I, LLC CACA-48668

Ivanpah 2 Site 1076.51 ac.

T. 17 N., R. 14 E.,

sec. 27, SW $\frac{1}{4}$ NW $\frac{1}{4}$, SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$;

sec. 28, S $\frac{1}{2}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$;

sec. 33, E $\frac{1}{2}$, E $\frac{1}{2}$ W $\frac{1}{2}$;

sec. 34, W $\frac{1}{2}$ E $\frac{1}{2}$, W $\frac{1}{2}$.

Solar Partners VIII, LLC CACA-49503

Ivanpah 3 Site 1,234.93 ac.

T. 17 N., R. 14 E.,

sec. 20, S $\frac{1}{2}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$;

sec. 21, S $\frac{1}{2}$ N $\frac{1}{2}$, S $\frac{1}{2}$;

sec. 22, SW $\frac{1}{4}$ NW $\frac{1}{4}$, W $\frac{1}{2}$ SW $\frac{1}{4}$;

sec. 27, W $\frac{1}{2}$ NW $\frac{1}{4}$;

sec. 28, N $\frac{1}{2}$, SW $\frac{1}{4}$;

sec. 29, E $\frac{1}{2}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$, E $\frac{1}{2}$ SW $\frac{1}{4}$;

sec. 33, E $\frac{1}{2}$ W $\frac{1}{2}$.

Solar Partners IV, LLC CACA-49502

Construction Logistics Area

245.89 ac.

T. 16 N., R. 14 E., SBBM

sec. 1, lot 1 in the NE $\frac{1}{4}$, W $\frac{1}{2}$ of lot 2 in the NW $\frac{1}{4}$, lot 1 in the NW $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$, N $\frac{1}{2}$ NW $\frac{1}{4}$;

sec. 3, lot 2, 3, and 4, SW $\frac{1}{4}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$;

sec. 4 lot 1, SE $\frac{1}{4}$ NE $\frac{1}{4}$;

T. 17 N., R 14 E., SBBM

sec. 17, S $\frac{1}{2}$ SE $\frac{1}{4}$;

sec. 20, NW $\frac{1}{4}$ NW $\frac{1}{4}$;

sec. 21, N $\frac{1}{2}$ N $\frac{1}{2}$;

sec. 22 W $\frac{1}{2}$ W $\frac{1}{2}$;

sec. 27, W $\frac{1}{2}$ NW $\frac{1}{4}$, N $\frac{1}{2}$ SW $\frac{1}{4}$, SE $\frac{1}{4}$ SW $\frac{1}{4}$, SW $\frac{1}{4}$ SE $\frac{1}{4}$;

sec. 33, SE $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{2}$ SE $\frac{1}{4}$;

sec. 34, W $\frac{1}{2}$ NE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$, SE $\frac{1}{4}$;

sec. 35, S $\frac{1}{2}$.

3.1.6 Statement of No Unnecessary or Undue Degradation (43 USC 1732(b))

Congress declared that the public lands be managed for multiple use and sustained yield, in a manner to protect certain land values, to provide food and habitat for species, and to provide for outdoor recreation and human occupancy and use (43 USC 1701 (a)(7), (8)). Multiple use management means that public land resources are to be managed to best meet the present and future needs of the American public, balanced to take into consideration the long term needs of future generations without permanent impairment of the lands (43 USC 1702(c)). BLM manages public land through land use planning, acquisition, and disposition, and through regulation of use, occupancy, and development of the public lands (Subchapters II and III, respectively, 43 USC 1711 to 1722, and 1731 to 1748).

The FLPMA specifically provides that in "managing public lands the Secretary shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue

degradation of the lands.” 43 USC Section 1781(b). The process for siting and evaluating the ISEGS project has included extensive efforts on the part of BLM, the applicant, CEC, public commentors, and other agencies in order to identify a project that accomplishes the purpose and need and other project objectives, while preventing, to the extent possible, any unnecessary or undue degradation of the lands. These efforts have included:

- Siting of the proposed facility in a location in which solar power development can be authorized (following NEPA review), and which has not been specifically designated for the protection of any resources.
- Modification of the proposed boundaries of the facility to minimize impacts to mineral, biological, and other resources.
- Evaluation of project location alternatives which could meet the purpose and need for the proposed project, but result in the avoidance and/or minimization of impacts.
- The development of mitigation measures, including compensation requirements for the displacement of desert tortoise habitat, to further avoid or minimize impacts.

In addition, BLM ROW regulations at 2805.11(a)(1) to (5) require determinations for the following:

BLM will limit the grant to those lands which BLM determines:

- (1) You will occupy with authorized facilities;
- (2) Are necessary for constructing, operating, maintaining, and terminating the authorized facilities;
- (3) Are necessary to protect the public health and safety;
- (4) Will not unnecessarily damage the environment; and
- (5) Will not result in unnecessary or undue degradation.

The lands described in section 3.1.5 are the minimum necessary to accommodate the 3,471.36 acre project. All areas under the Selected Alternative that were not necessary for the construction, operation, and maintenance of the facilities were removed from the project description. In addition to eliminating approximately 433 acres of sensitive plant habitat from the project, the applicant also eliminated over 100 acres of land from within the Construction Logistics Area that were no longer needed for the succulent plant storage nursery. The applicant has further consolidated activities within the construction staging area to minimize the amount of additional temporary workspace needed to construct and assemble facility components. All temporary disturbances associated with underground utilities will be immediately restored and revegetated to minimize erosion in accordance with approved restoration and revegetation plans.

Public health and safety will not be compromised by the project as construction work areas will be posted and public access to those areas controlled to prevent possible injury to the public. During operations site security will be maintained with perimeter control fencing and security personnel.

The Selected Alternative will achieve almost all of the beneficial impacts of the proposed project, including socioeconomic benefits of increases in employment and fiscal resources, and displacement of greenhouse gas and air pollutant emissions associated with fossil-fueled power plants. While meeting these objectives and providing these beneficial impacts, the adverse impacts of the Selected Alternative will be much lower than the proposed project, especially in the areas of Biological Resources, Soil and Water Resources, and Visual Resources. The Selected Alternative will also have lower impacts to visual resources and traffic and transportation than the Modified I-15 Alternative. Based on the comparative analysis of the ability of each alternative to meet the purpose and need, and the environmental impacts that would be associated with each alternative as discussed in the Final EIS and as summarized above, the Mitigated Ivanpah 3 Alternative was identified by BLM as the preferred alternative, and is the Selected Alternative in this ROD. The Selected Alternative does not unnecessarily damage the environment or create unnecessary or undue degradation of the lands.

As noted above, Congress specifically recognized multiple use and sustained yield management for the CDCA, through the CDCA Plan, providing for present and future use and enjoyment of the public lands, The 1980 CDCA land use plan, as amended, identifies allowable uses of the public lands in the CDCA. In particular, it authorizes the location of solar power generating facilities in MUC L and other land classifications upon NEPA review. BLM has conducted that review, and as indicated in the FEIS, and in portions of this ROD, has adjusted the project to meet public land management needs and concerns. In particular, the BLM has determined that the Selected Alternative meets national renewable energy policy goals and objectives and falls within the guidelines of the CDCA Plan. In addition, the project meets the requirements of applicable ROW regulations inasmuch as it includes terms, conditions and stipulations that are in the public interest, prevents surface disturbance unless and until a Notice to Proceed is secured, is issued for a period of 30 years, subject to renewal and periodic review, and contains diligence and bonding requirements to further protect public land resources. This approval provides that public land will be occupied only with authorized facilities and only to the extent necessary to construct, operate, maintain and terminate the project. BLM conditions of approval provide for public health and safety, protect the environment and the public lands at issue. These conditions of approval include compliance with this ROD, the FEIS, the Biological Opinion/Conference Opinion, section 106 requirements and the PA. All of these federal requirements provide the basis for BLM's determination that the project will not unnecessarily and unduly degrade

these public lands. In addition, the CEC Conditions of Approval and the Corps section 404 requirements are all conditions of the BLM approval of this project and provide additional protection to public land resources.

3.1.7 Statement of Technical and Financial Capability (43 USC 1764(j))

The Code of Federal Regulations provides federal agencies the authority to require a project application to include information on an applicant's technical capability to construct, operate, and maintain the solar energy facilities applied for (43 CFR 2804.12(a)(5)).

This technical capability can be demonstrated by international or domestic experience with solar energy projects or other types of electric energy-related projects on either federal or non-federal lands. The applicant has provided information on the availability of sufficient capitalization to carry out development, including the preliminary study phase of the project, as well as the site testing and monitoring activities. BrightSource Energy has filed the necessary documentation showing that they are qualified. They have also applied to DOE, and received preliminary DOE approval for \$1.37 billion in loan commitments.

The applicant statement of technical and financial capability is provided in their right-of-way applications for the project.

3.2 Relationship to BLM and other Agency Plans, Programs, and Policies

3.2.1 Tribal Consultation

The BLM conducted government-to-government consultation with a number of Tribal governments and Tribal representatives as described in detail in Section 4.4.2, Native American Consultation, in the Final EIS.

That consultation with Native American Tribes and the discussions with Tribal organizations and individuals revealed concerns about the importance and sensitivity of cultural resources on and near the ISEGS project site, and concerns regarding the use of water, which is an important resource for the tribes.

The following contacts were made with all tribes identified that would be associated with lands proposed for the facility. No specific concerns were expressed by any of the

Tribes consulted. Although information was requested, no sites of traditional or religious use were identified in the area by the Tribes. One Tribal elder (Chemehuevi enrolled at Colorado River Indian Tribes) did note that 'Ivanpah' meant 'good water' in Chemehuevi. The project is within the homeland of the Chemehuevi and Southern Paiute. Numerous letters as well as phone calls and face to face meetings occurred with Tribes on this project:

Letter #1: October 4, 2007 Initiating coordination/consultation with results of archaeological survey

Letter #2: March 5, 2009 Follow-up and results of additional survey

Letter #3: December 16, 2009 Draft EIS

Letter #4: April 16, 2010 Supplemental Draft EIS

The BLM consulted with Native American Tribes and interested tribal members on the development and execution of a Programmatic Agreement (PA) for the ISEGS project. In accordance with 36 Code of Federal Regulations (CFR) Part 800.14(b), PAs are used for the resolution of adverse effects for complex project situations and when effects on historic properties (resources eligible for or listed in the National Register of Historic Places [National Register]) cannot be fully determined prior to approval of an undertaking.

3.2.2 FWS Section 7 consultation

The BLM permit, consultation, and coordination with the USFWS required for the ISEGS project complies with the federal ESA regarding potential take of the desert tortoise, which is listed as a threatened species.

The BLM submitted a Biological Assessment (BA) for take of desert tortoise to the USFWS for the ISEGS project on December 7, 2009.

The Biological Opinion was issued by USFWS on October 4, 2010. In the BO, the USFWS conducted analysis of the impact of the Selected Alternative on the desert tortoise and its habitat, including:

- Scope of the proposed action;
- Environmental baseline, including evaluation of habitat characteristics and estimation of the number of tortoise present by various methods;
- Status of the tortoise populations in the area;
- Translocation strategy;

- Impacts due to construction, operations, and restoration;
- Impacts due to loss of habitat; and
- Effects of compensation measures.

Based on this analysis, the USFWS stated "it is our biological opinion that the proposed action is not likely to jeopardize the continued existence of the desert tortoise." This conclusion was reached for a variety of reasons, including:

1. Project activities are likely to directly kill few subadult/adult desert tortoises because BrightSource will implement numerous measures to reduce the potential that desert tortoises will occupy project work sites (i.e., clearance surveys, exclusion fencing, translocation, qualified biologists, desert tortoise monitors).
2. The number of desert tortoises injured and killed as a result of translocation will likely be small relative to the number of desert tortoises that occur within the Northeastern Mojave Recovery Unit, and across the range of the species.
3. BrightSource will implement numerous measures to reduce the potential for increased predation by common ravens and spread of non-native plant species.
4. Current information from permanent study plots and line distance sampling does not document a statistical trend in adult desert tortoise densities in this recovery unit. Therefore, we have no information to indicate that the loss of a small number of individuals as a result of this project would appreciably reduce our ability to reach population recovery objectives for the desert tortoise in the Northeastern Mojave Recovery Unit.
5. This project would not result in loss of desert tortoise habitat in areas that the Bureau or other agencies have designated for intensive management to achieve conservation of desert tortoises.
6. Compensation requirements through the Bureau and California Department of Fish and Game will result in an increase in the amount of existing habitat that is managed for the conservation of the desert tortoise and will likely lead to restoration of lost or degraded habitat within these areas.
7. Regional management actions, proposed by the Bureau, are likely to aid in reducing common raven predation in a portion of the desert tortoise's range.

The ROD incorporates the results of the BO, including a condition of approval requiring the applicant to comply with the reasonable and prudent measures and required terms and conditions. The BO is provided in Appendix 2, Biological Opinion, of this ROD. It is also available on the BLM website.

3.2.3 Bald and Golden Eagle Protection Act

The BLM coordinated with FWS concerning requirements of the Bald and Golden Eagle Protection Act. In order to comply with the Act, and based on the USFWS recommendation (memo dated September 15, 2010, available as part of the project record), the BLM will require the mitigation measure listed in the FEIS as BLM BIO-28. This measure requires submission of an Avian Protection Plan within 6 months of the initial BLM Notice to Proceed, and implementation of the plan within one year of the Notice to Proceed.

3.2.4 Section 106 and the Programmatic Agreement

The BLM prepared a PA for the ISEGS project in consultation with the Advisory Council on Historic Preservation (ACHP), the State Historic Preservation Officer (SHPO), the CEC, interested Native American Tribes (including tribal governments as part of government-to-government consultation described earlier), and other interested parties. The executed Final PA, provided in Appendix 3 of this ROD, will govern the continued identification and evaluation of historic properties (eligible for the National Register) and historical resources (eligible for the California Register of Historic Places), as well as the resolution of any effects that may result from the ISEGS project. Historic properties and historical resources are significant prehistoric and historic cultural resources as determined by the BLM.

3.2.5 Consultation with Other Agencies

3.2.5.1 Consultation with Other Federal Agencies

As described in the following sections, the following federal agencies cooperated with the BLM on the Final EIS for the ISEGS project: the United States Department of Energy (DOE). In addition, the Environmental Protection Agency (EPA), Federal Aviation Administration (FAA), National Park Service (NPS), and the U.S. Army Corps of Engineers (Corps) provided input to the BLM on the project and the EIS.

United States Department of Energy

As discussed earlier, the DOE is the agency responsible for implementing key parts of the Energy Policy Act of 2005 including the federal loan guarantee program for eligible energy projects that employ innovative technologies. As a result, the DOE was consulted during the preparation of the Draft EIS, Supplemental Draft EIS, and Final

EIS, and was provided a copy of the preliminary Final EIS for review. The DOE provided comments to the BLM on these documents, and their comments were incorporated into the text.

United States Environmental Protection Agency

The EPA provided written comments on the proposed project and the EIS preparation during the scoping period. The EPA also provided written comments during the review period for the Draft EIS, Supplemental Draft EIS, and the Final EIS. The responses to EPA's comments on the Final EIS are provided in Appendix 1.

Federal Aviation Administration

The FAA provided written comments on the proposed project and the EIS preparation during the scoping period. The comments regarded potential effects of the project on the planned Southern Nevada Supplemental Airport.

National Park Service

The NPS provided written comments on the proposed project and the EIS preparation during the scoping period. The NPS also provided written comments during the review period for the Draft EIS and Supplemental Draft EIS.

United States Army Corps of Engineers

The Corps provided a written jurisdictional decision that the ISEGS project is unlikely to impact waters of the U.S.

3.2.5.2 Consultation with State, Regional, and Local Agencies

The following state and local agencies provided input to the BLM on the project and the EIS: California Energy Commission, San Bernardino County, Lahontan Regional Water Quality Control Board, California Department of Fish and Game (CDFG), and Mojave Desert Air Quality Management District. Details regarding the scope of this coordination are provided in Section 5.6.5. In addition to the NEPA coordination process, BrightSource may have to obtain permits and other approvals from other agencies or comply with requirements of other agencies that did not provide written input on the project and/or the EIS.

3.3 LUP Conformance (43 CFR 1610.5-3(a))

3.3.1 Conformance with the California Desert Conservation Area Plan

3.3.1.1 California Desert Conservation Area Plan

The FLPMA establishes public land policy; guidelines for administration; and provides for the management, protection, development, and enhancement of public lands. The FLPMA specifically establishes BLM's authority to grant rights-of-way for the generation, transmission, and distribution of electrical energy as follows:

- (a) The Secretary, with respect to the public lands ... are authorized to grant, issue, or renew rights-of-way over, upon, under, or through such lands for:
 - (4) systems for generation, transmission, and distribution of electric energy

The FLPMA is relevant to the ISEGS project because it establishes BLM's authority to grant rights-of-way on public lands for the generation, transmission, and distribution of electrical energy (FLPMA 2001). Because the FLPMA authorizes the issuance of a right-of-way grant for electrical generation facilities and transmission lines, the ISEGS project will be consistent with the FLPMA.

The CDCA Plan was developed as mandated by the FLPMA and is the land use plan (LUP) for the ISEGS project site and the surrounding area within the defined CDCA. The CDCA Plan is a comprehensive, long-range plan for the management, use, development, and protection of the public lands in the CDCA. The 25-million acre CDCA contains over 12 million acres of public lands in the California desert, which includes the Mojave Desert, the Sonoran Desert, and a small part of the Great Basin Desert. Those 12 million acres of public lands are approximately half of the total land area in the CDCA. The site proposed for the ISEGS project includes approximately 3,462 acres of land in the CDCA administered by the BLM.

Goals and actions for each resource managed by the BLM are established in the 12 Elements in the CDCA Plan. Each Plan Element provides a Desert-wide perspective of the planning decisions for one major resource or issue of public concern as well as more specific interpretation of multiple-use class guidelines for a given resource and its associated activities.

The ISEGS project site is classified in the CDCA Plan as Multiple-Use Class (MUC) L (Limited Use). MUC L, the most restrictive classification in the Plan, "...protects sensitive, natural, scenic, ecological, and cultural resource values." Public lands

designated Class L are managed to provide for generally lower-intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished. The CDCA Plan states that "... electrical generation plants may be allowed ..." within the Limited Use designation. Specifically, wind and solar electrical generating facilities "... may be allowed after NEPA requirements are met." It should be noted that electrical generating facilities using nuclear and/or fossil fuels are not allowed within the Limited Use designation.

3.3.1.2 Need for a CDCA Plan Amendment

To accommodate the ISEGS project, the CDCA Plan must be amended because "Sites associated with power generation or transmission not identified in the Plan will be considered through the Plan Amendment process (CDCA Plan at 95). As specified in Chapter 7, Plan Amendment Process, in the CDCA Plan, there are three categories of Plan Amendments:

- **Category 1:** For proposed changes that will not result in significant environmental impact or analysis through an EIS;
- **Category 2:** For proposed changes that would require a significant change in the location or extent of a multiple-use class designation; and
- **Category 3:** To accommodate a request for a specific use or activity that will require analysis beyond the Plan Amendment Decision.

Based on these criteria, approval of the ISEGS project will require a Category 3 amendment to the CDCA Plan. The amendment to the CDCA Plan to designate the ISEGS project site for solar energy generation was evaluated in the Final EIS.

Land Use Plan Amendment Analysis

The proposed land use plan amendment to be made by the BLM is a site identification decision only. The proposed solar project and all of its alternatives are located within Multiple Use Class L. The classification designations govern the type and degree of land-use action allowed within the classification area. All land use actions and resource-management activities on public lands within a multiple-use class delineation must meet the guidelines for that class. Multiple use class L allows electric generation plants for solar facilities after NEPA requirements are met. These guidelines are listed on Table 1, Multiple Use Class Guidelines, to the CDCA Plan of 1980 (at page 15). The specific application of the multiple use class designations and resource management guidelines for a specific resource or activity are further discussed in the plan elements section of the CDCA Plan. In Class L designations, the authorized officer is directed to use his

judgment in allowing for consumptive uses by taking into consideration the sensitive natural and cultural values that might be degraded.

The proposed site location for the ISEGS project meets the Multiple Use Class Guidelines (as applicable to the particular project/alternatives/site locations) as noted in the CDCA Plan for the following reasons:

1. Agriculture: Agricultural uses of Class L lands are not allowed, with the exception of livestock grazing. The site is not currently used for agriculture, and the Selected Alternative would involve use of the site for agriculture. Therefore, the project would be in conformance with this guideline.
2. Air Quality: Class L lands, including the proposed site location and the alternatives, are to be managed to protect their air quality and visibility in accordance with Class II objectives of the Federal Clean Air Act. The worst-case emissions that would be associated with the project have been compared to emissions objectives for air quality and visibility are all well below the limitations required for Class II areas. The emissions associated with the Selected Alternative would be lower than those of the proposed project. Therefore, the Selected Alternative would conform to the Class II objectives referenced in the CDCA Plan guidelines.
3. Water Quality: Class L designations will be managed to provide for the protection and enhancement of surface and groundwater resources, and BMPs will be used to avoid degradation and to comply with Executive Order 12088. Section 4.10 of the EIS evaluated the Selected Action for groundwater use conflicts, the potential to impact groundwater quality, and the potential to impact surface water resources. Development and operation of the ISEGS facility on an active alluvial fan raises concerns for changing stormwater surface flow across the project. The incorporation of low impact development practices with limited grading, and limited removal of vegetation to maintain natural sheet flow across the site were developed by the applicant, in coordination with the BLM, to reduce these potential impacts. Mitigation measures identified in the Final EIS and adopted by this Decision conform to the guidelines in Table 1 of the CDCA Plan.
4. Cultural and Paleontological Resources: Archaeological and paleontological values will be preserved and protected. Procedures described in 36 CFR 800 will be observed where applicable. As described in detail in Sections 4.4 and 4.16 of the Final EIS, cultural and paleontological resources associated with the development of the Selected Alternative would not be impacted, and therefore would conform to the guidelines. The only site that would be disturbed that was identified as eligible for inclusion in the NRHP is the existing Hoover Dam to San Bernardino 115 kV transmission line. Replacement of a portion of the line will

cause an adverse effect that is addressed under the terms of the Programmatic Agreement for the Eldorado Ivanpah Transmission Project. The identification of the site location for the proposed action or any of the alternative site locations are subject to the MUC Guidelines for cultural and paleontological resource protection as is evidenced by the applicability of the guidelines to the specific facility proposal. As such, the site location is within the MUC Guidelines for cultural and paleontological resource protection established by the CDCA Plan.

5. Native American Values: Native American cultural and religious values will be protected and preserved on Multiple Use Class L lands with appropriate Native American groups consulted. Repeated efforts and opportunities have been provided to allow tribal entities to raise concerns. No tribal entities raised concerns with the Selected Alternative, and therefore cultural guidelines with respect to requirements for consultation have been met. In addition, the protection of cultural resources ensures that preservation and protection of cultural and religious values is accomplished in accordance with the CDCA Plan MUC guideline.
6. Electrical Generation Facilities: Solar generation may be allowed after NEPA requirements are met. The analysis contained in the Final EIS, which addresses the proposed action and its alternatives, comprise the NEPA compliance required for this MUC guideline.
7. Transmission Facilities: Class L guidelines allow electric transmission to occur in designated ROW corridors. The cumulative action described for the Eldorado Ivanpah Transmission project meets this guideline for the Selected Alternative by locating the new transmission line in an existing ROW corridor.
8. Communication Sites: The Selected Alternative would not involve the installation of communications sites.
9. Fire Management: Fire suppression measures in Class L areas will be taken in accordance with specific fire management plans, subject to such conditions as the authorized officer deems necessary. The project area is within the area covered by the BLM California Desert District and Needles Field Office Fire Management Plan, 2004. That Plan addresses management and suppression of wildfires, and does not address incidents on specific facilities such as power plants. The applicant has developed fire suppression measures that will be used for the Selected Alternative, as discussed in Section 4.15 of the Final EIS.
10. Vegetation: Table 1 of the CDCA Plan includes a variety of guidelines associated with vegetation. Section 4.20 of the Final EIS, Land Use Plan Amendment Analysis, addresses conformance of the Selected Alternative with the CDCA Plan regarding the following resource areas:
 - a. Native Plants

- b. Harvesting of plants by mechanical means
 - c. Rare, Threatened, and Endangered Species, State and Federal
 - d. Sensitive Plant Species
 - e. Unusual Plant Assemblages (UPAs)
 - f. Vegetation Manipulation
11. Land Tenure Adjustment: Class L land will not be sold. The Selected Alternative would not involve any sale of public lands.
12. Livestock Grazing: The Selected Alternative would not involve the addition of livestock grazing to a Class I area where it does not already occur.
13. Minerals: The Selected Alternative would not involve the development of minerals on Class L lands.
14. Motorized Vehicle Access/Transportation: Pursuant to the CDCA LUP guidelines in Class L areas, new roads may be developed under ROW grants or approved plans of operations. In areas designated as limited use area for OHV use, such as the site locations under consideration in this FEIS, changes to the transportation network (new routes, re-routes, or closures) in "limited" areas may be made through activity-level planning or with site-specific NEPA analysis (IM 2008-014). Modifications to area OHV designations (open, closed, or limited) require amendment to the RMP. There are no area OHV designations that are being made or modified through the Selected Alternative. Existing routes are being closed, and new routes are being created in limited OHV areas. As such, these changes are being made with site-specific NEPA analysis, as provided in Section 4.19 of the Final EIS. The road ROW grants being approved allow for the reconstruction of Collisseum Road as the main access road to ISEGS. This activity falls within the CDCA LUP guideline.
15. Recreation: The Selected Alternative would not involve the use of the proposed project or alternative sites for recreational uses.
16. Waste Disposal: The Selected Alternative would not involve the development of waste disposal sites on the proposed project or alternative sites
17. Wildlife Species and Habitat: Table 1 of the CDCA Plan includes a variety of guidelines associated with wildlife. Section 4.20 of the Final EIS, Land Use Plan Amendment Analysis, addresses conformance of the Selected Alternative with the CDCA Plan regarding the following resource areas:
- a. Rare, Threatened, and Endangered Species, State and Federal – In all MUC areas, all state and federally listed species and their critical habitat will be fully protected, under the Biological Opinion from USFWS. BLM has worked with the Energy Commission, USFWS, CDFG, applicant, and intervenors to develop protection and compensation measures for the desert tortoise, which include stringent avoidance measures, the full level

of compensation required by USFWS for this category of tortoise habitat, and enhancement and protection measures in other areas. Therefore, the project would comply with the guideline to provide full protection to the species.

- b. Sensitive Species – Identified species will be given protection in management decisions consistent with BLM's policy for sensitive species management, BLM Manual 6840. The objective of this policy is to conserve and/or recovered listed species, and to initiate conservation measures to reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing. No BLM sensitive species (other than the desert tortoise) are present at the project site.
- c. The Selected Alternative, including the mitigation measures associated with these actions, would involve habitat manipulation to improve habitat (such as tortoise fencing along roads and placement of a water source in big horn sheep habitat) and introduction of native species (through the translocation of tortoises). Introduction of native species is permitted in Class L areas, and habitat manipulation is allowed subject to environmental assessment, as is done within this EIS. Therefore, the proposed project and its alternatives would be in conformance with these guidelines.
- d. The Selected Alternative, including the translocation associated with these actions, would not involve the control of depredation wildlife and pests. Therefore, this guideline is not applicable to these actions.

18. Wetland/Riparian Areas: No wetlands or riparian areas are present in the project area.

19. Wild Horses and Burros: Under the CDCA Plan guidelines, populations of wild and free-roaming horses and burros will be maintained in healthy, stable herds, but will be subject to controls to protect sensitive resources. No wild and free-roaming horses are present in the project area. In the NEMO Plan Amendments, BLM established the AML for burros in the vicinity of the proposed project area at zero. Therefore, the Selected Alternative would conform with the requirements of the guidelines in the CDCA Plan.

3.3.1.3 Required CDCA Plan Determinations

As discussed in Chapter 7 in the CDCA Plan, the BLM must make certain required determinations in amendments to the CDCA Plan. The required determinations and how they were made for the CDCA Plan amendment for the ISEGS project are provided below.

A. Determine if the request has been properly submitted and if any law or regulation prohibits granting the requested amendment.

The applicant's request for a right-of-way was properly submitted, and this EIS acts as the mechanism for evaluating and disclosing environmental impacts associated with that applications. No law or regulation prohibits granting the amendment.

B. Determine if alternative locations within the CDCA are available which would meet the applicant's needs without requiring a change in the Plan's classification, or an amendment to any Plan element.

The CDCA Plan does not currently identify any sites as solar generating facilities. Therefore, there is no other location on public land within the CDCA which could serve as an alternative location without requiring a Plan Amendment. The proposed project does not require a change in the Multiple-Use Class classification for any area within the CDCA.

C. Determine the environmental effects of granting and/or implementing the applicant's request.

This EIS acts as the mechanism for evaluating the environmental effects of granting the right-of-way and the Plan Amendment.

D. Consider the economic and social impacts of granting and/or implementing the applicant's request.

This EIS acts as the mechanism for evaluating the economic and social impacts of granting the right-of-way and the Plan Amendment.

E. Provide opportunities for and consideration of public comment on the proposed amendment, including input from the public and from federal, State, and local government agencies.

A Notice of Intent (NOI) to amend the CDCA Plan was published in the Federal Register November 6, 2008, Vol. 72, No. 214 Fed. Reg.62671-62672. Three respondents, all government agencies, provided comments during the 30-day NOI scoping period. Although not part of BLM's required NEPA or Plan Amendment process, public comments were also received on the Preliminary Staff Assessment (PSA) published by the Energy Commission in December, 2008. In response to the PSA, 13 respondents provided comments. These included government agencies, environmental organizations, and individuals with no stated affiliation. In response to the FSA/DEIS, 40 respondents provided comments. In response to the Supplemental DEIS, 20 respondents provided comments.

The balance between resource use and resource protection is evaluated in the Final EIS. Title VI of the FLPMA, as addressed in the CDCA Plan, provides for the immediate and future protection and administration of the public lands in the California desert

within the framework of a program of multiple use and sustained yield, and maintenance of environmental quality. Multiple use includes the use of renewable energy resources, and through Title V of FLPMA, the BLM is authorized to grant rights-of-way for the generation and transmission of electric energy. The acceptability of use of public lands within the CDCA for this purpose is recognized through the CDCA Plan's approval of solar generating facilities within Multiple-Use Class L. The Final EIS identifies resources which may be adversely impacted by approval of the ISEGS project, evaluates alternative actions which may accomplish the purpose and need with a lesser degree of resource impacts, and identifies mitigation measures which, when implemented, will reduce the extent and magnitude of the impacts and provide a greater degree of resource protection.

3.3.1.4 CDCA Plan Decision Criteria

The CDCA Plan defines specific Decision Criteria to be used by the BLM in evaluating applications in the Energy Production and Utility Corridors Element of Chapter 3. The consideration of these Decision Criteria for the ISEGS project is described below.

1. Minimize the number of separate rights-of-way by utilizing existing rights-of-way as a basis for planning corridors.

The ISEGS project assists in minimizing the number of separate rights-of-way by being proposed in close proximity to existing Corridors D and BB. Electrical transmission associated with the proposed project will occur within these existing corridors, and placement of the facility adjacent to these corridors minimizes the length of new corridors necessary for transmission of natural gas to the site.

2. Encourage joint-use of corridors for transmission lines, canals, pipelines, and cables.

Placement of the ISEGS project adjacent to existing Corridor D maximizes the joint-use of this corridor for natural gas and electrical transmission.

3. Provide alternative corridors to be considered during processing of applications.

This decision criterion is not applicable to the ISEGS project. Placement of the project adjacent to existing corridors does not require designation of alternative corridors to support the proposed project.

4. Avoid sensitive resources wherever possible;

The extent to which the Selected Alternative has been located and designed to avoid sensitive resources is addressed throughout the EIS. BLM and other federal regulations that restrict the placement of proposed facilities, such as the presence of designated Wilderness Areas or Desert Wildlife Management Areas were considerations in the

original siting process used by the applicant and discussed with BLM during pre-application proceedings (43 CFR 2804.10) to identify potential project locations. The project location and configurations of the boundaries were modified in consideration of mineral resources. The alternatives analysis presented in the Draft EIS, and supplemented in the Supplemental Draft EIS and Final EIS, considered whether the purpose and need of the proposed project could be achieved in another location, but with a lesser effect on sensitive resources.

5. Conform to local plans whenever possible;

The extent to which the ISEGS project conforms to local plans is addressed within the Land Use section of the Final EIS. The proposed project is in conformance with the San Bernardino County General Plan.

6. Consider wilderness values and be consistent with final wilderness recommendations;

The ISEGS project is not located within a designated Wilderness Area or Wilderness Study Area.

7. Complete the delivery systems network;

This decision criterion is not applicable to the ISEGS project.

8. Consider ongoing projects for which decisions have been made;

This decision criterion is not applicable to the ISEGS project. Approval of the Selected Alternative will not affect any other projects for which decisions have been made.

9. Consider corridor networks which take into account power needs and alternative fuel resources.

This decision criterion is not applicable to the ISEGS project. The Selected Alternative does not involve the consideration of an addition to or modification of the corridor network. However, it does utilize facilities located within Corridors D and BB, which were designed with consideration of both power needs and locations of alternative fuel resources.

3.3.2 Northern and Eastern Mojave Desert Management Plan

Various federal regulations, Executive Orders, and the CDCA Plan require the BLM to designate routes of travel as open, limited, or closed to vehicular travel and to assure that resources are properly managed in a multiple use context. All the routes on the ISEGS site are currently classified as open routes. open routes are defined as follows:

“Access on route by motorized vehicles is allowed. Special uses with potential for resource damage or significant conflict with other use may require specific

authorization.” (Route Designations, Motorized Vehicle Access, pp. 77, CDCA Plan, 1980 (as amended))”

In 2002, in an amendment to the CDCA Plan, the BLM identified and designated many routes of travel in the *Northern and Eastern Mojave Desert Management Plan* (NEMO). That amendment to the CDCA Plan clarified, updated, and assigned designations (open, closed, or limited) to all travel routes within the NEMO amendment area.

The ISEGS project site is within the NEMO amendment area. Three open routes are shown within the boundary of the ISEGS project site and the construction laydown site. The three open routes on the ISEGS project site follow established dirt roads/trails on the site and are described briefly in Section 4.19 of the Final EIS.

The designated open routes on the ISEGS project site will be affected by the ISEGS project, which will require those routes to be closed. Specifically, all the open routes on site will be closed to public access as a result of the ISEGS project. The closure of these routes will be an administrative action by the BLM as opposed to a plan level determination. Public access previously provided by these closed routes will be maintained through facility perimeter maintenance roads, under the non-exclusive ROW to be issued to BrightSource as part of the approval of this project.

3.3.3 Utility Corridors

Approximately 50 percent of the land area for Ivanpah 1, 2, and 3 and the administrative complex/logistics area are located within existing Utility Corridors D and BB. The land area for Ivanpah 3 will cover approximately 60 percent of the 2-mile width of Corridor D. Although the ISEGS facility will result in limiting the available area within Corridor D, future linear facilities could still be placed in the remaining portion of this corridor.

For a short distance, Utility Corridor BB is split into a northern and southern portion, and the ISEGS site sits within the area between the southern and northern portions. The northern portion of corridor BB passes between Ivanpah 1 and 2, and the southern portion of Utility Corridor BB passes just south of Ivanpah 1. Construction of Ivanpah 1 will cover a small fraction (less than 5%) of the southern portion of Utility Corridor BB, and will not substantially limit future use of this portion of the corridor for other purposes. However, construction of Ivanpah 1, 2, and the construction logistics area will cover 100% of the two-mile width of the northern portion of Utility Corridor BB.

Locating parts of the ISEGS project within these utility corridors is consistent with the designation of those corridors by the BLM as utility corridors.

3.4 Adequacy of NEPA Analysis

Section 1.2 above discusses the changes to the Selected Alternative and BLM's analysis of that alternative that have occurred since the publication of the Final EIS. The two changes that were identified are:

- The reduction in the overall project acreage from the 3,564 acres evaluated in the Final EIS to 3,461.56 acres, as approved in this ROD; and
- Modification of the tortoise translocation requirements.

The reduction in project acreage involves the organizational placement of facilities within the Construction Logistics Area to make more efficient use of space. The applicant also quantified the minimum area needed for the succulent and rare plant storage nursery. The project infrastructure and construction, operation, or termination procedures remain unchanged except for the organization of these facilities within the staging area footprint. The entire project will occur within the boundaries of the Mitigated Ivanpah 3 Alternative, as it was evaluated in the Final EIS. However, the project will involve a reduced amount of acreage, and will therefore have a reduced level of impacts from that identified in the Final EIS. Therefore, the Final EIS adequately analyzes and discloses the impacts that will occur as a result of the Selected Alternative.

The modification of the translocation requirements developed by the USFWS and CDFG is discussed in Section 1.2 above. The translocation requirements are developed by those agencies to avoid or minimize impacts to the desert tortoises removed from the project site, and Mitigation Measure BIO-9 incorporates those requirements into the ROW grants. The requirements, as defined in the Final EIS, were modified by USFWS to provide a greater degree of protection to the displaced tortoises, and to increase the chances of translocation success. The USFWS discuss and analyzes the modified translocation strategy in the Biological Opinion. Therefore, this modification involves more stringent mitigation measures which will result in the Selected Alternative having a reduced level of impacts from those identified in the Final EIS.

Because these two modifications result in a reduction of impacts from those evaluated in the Final EIS, and are well within the Selected Alternative analyzed in the FEIS, additional or supplemental NEPA analysis is not required.

4. Alternatives (40 CFR 1505.2(b))

4.1 Alternatives fully analyzed

Four alternatives, including the Proposed Action, Mitigated Ivanpah 3 Alternative, Modified I-15 Alternative, and the No Action Alternative, were described in detail in Section 3 of the Final EIS, were fully analyzed in Section 4 of the Final EIS, and are briefly summarized below.

Proposed Action - The proposed ISEGS Project would be a development of three solar concentrating thermal power plants, which are comprised of fields of heliostats (elevated mirrors guided by a tracking system) focusing solar energy on boilers located on centralized power towers. Each heliostat tracks the sun throughout the day and reflects the solar energy to the receiver boiler. In each plant, one Rankine-cycle reheat steam turbine receives live steam from the solar boilers and reheats steam from the solar reheater. The applicant proposes to develop the ISEGS project as three power plants in separate and sequential phases that are designed to generate a total of 400 MW of electricity. Ivanpah 1 and 2 would each have an electrical generation capacity of 100 MW, and Ivanpah 3, a capacity of 200 MW. Shared facilities consisting of the substation, administration, and maintenance buildings would be developed during construction of the first power plant in the Construction Logistics Area (CLA) between Ivanpah 1 and 2.

Mitigated Ivanpah 3 Alternative - Similar to the proposed project, the Mitigated Ivanpah 3 Alternative will be a development of three solar concentrating thermal power plants, which are comprised of fields of heliostats (elevated mirrors guided by a tracking system) focusing solar energy on boilers located on centralized power towers. The applicant will develop the Mitigated Ivanpah 3 Alternative as three power plants in separate and sequential phases that are designed to generate a total of 370 MW of electricity. Ivanpah 1 will have an electrical generation capacity of 120 MW, and Ivanpah 2 and 3 will have a capacity of 125 MW each. The acreage associated with Ivanpah Unit 3 will be reduced by moving the northern boundary of the ROW grant approximately 1,900 feet south of its location in the proposed action, resulting in a reduction of 433 acres of disturbance in that area, as well as a reduction of 433 acres in the total overall ROW grant. The Mitigated Ivanpah 3 Alternative will require approximately 40,000 fewer heliostats than the proposed project, or a total of 173,500. The reduction will be reached by not installing heliostats in the 433 acre northern portion of Ivanpah Unit 3.

Because it involves four fewer power tower receivers and 40,000 fewer heliostats, the Mitigated Ivanpah 3 Alternative will require a smaller amount of acreage (109 fewer

acres) within the CLA for construction purposes compared to the Proposed Action. However, this alternative will use most of this acreage for a Rare Plant Transplantation Area (approximately 7 acres) and a Succulent Nursery Area (59 acres). Overall, both alternatives will require the same 377 acres designated in the ROW grant for the CLA (BSE 2010a).

Modified I-15 Alternative – The Modified I-15 Alternative would use the same technology and configuration of components as the Mitigated Ivanpah 3 Alternative, but would seek to further reduce impacts to biological resources by placing Ivanpah Unit 3 in an area which is reported to have a lower density of those resources. The Modified I-15 Alternative, which involves a reconfiguration of Ivanpah Unit 3 in a location closer to Interstate 15, would reduce the acreage associated with Ivanpah Unit 3, and in the overall ROW grant, by 433 acres and would require approximately 40,000 fewer heliostats than the proposed project, or a total of 173,500. The number and location of power towers in Ivanpah Unit 3 would be modified from that in the proposed project. The proposed project includes five separate power towers within Ivanpah Unit 3. In the Modified I-15 Alternative, the number of power towers would be reduced to one.

Because it involves four fewer power tower receivers and 40,000 fewer heliostats, the Modified I-15 Alternative would require a smaller amount of acreage (109 fewer acres) within the CLA for construction purposes. However, the alternative would use most of this acreage for a Rare Plant Transplantation Area (approximately 7 acres) and a Succulent Nursery Area (59 acres). Overall, both alternatives would require the same 377 acres designated in the ROW grant for the CLA (BSE 2010a).

No Action Alternative – The No Action alternative under NEPA defines the scenario that would exist if the project were not constructed. Under NEPA, the “no action” alternative is used as a benchmark of existing conditions by which the public and decision makers can compare the environmental effects of the proposed action and the alternatives. If the No Action alternative were selected, the construction and operational impacts of the ISEGS project would not occur. There would be no grading of the site, no loss or disturbance of approximately 4,000 acres of desert habitat, and no installation of extensive power generation and transmission equipment. The No Action alternative would also eliminate the proposed project’s contributions to cumulative impacts in the Ivanpah Valley and in the Mojave Desert as a whole.

1.1 Alternatives not Fully Analyzed

In addition to the four alternatives that were fully analyzed in the Final EIS, 21 additional alternatives to the ISEGS project were developed and evaluated in the Final EIS. These alternatives include seven additional alternative site locations, a range of different solar and renewable technologies, generation technologies using different

fuels, and conservation/demand-side management. The alternatives that were considered, but eliminated from detailed analysis in the Final EIS are listed in Table 4-1.

**Table 4-1.
Alternatives Considered by BLM, but Eliminated from Detailed Analysis**

<u>Site Alternatives</u>	<u>Other Renewable Alternatives</u>
<ul style="list-style-type: none"> • Siberia East alternative • Broadwell Lake alternative • Private Land alternative • Ivanpah Site A alternative • Ivanpah Site C alternative • West of Clark Mountain alternative • Ivanpah Playa alternative 	<ul style="list-style-type: none"> • Wind energy • Geothermal energy • Biomass energy • Tidal energy • Wave energy
	<p><u>Alternative Methods of Generating or Conserving Energy</u></p> <ul style="list-style-type: none"> • Natural Gas Generation • Coal Generation • Nuclear Energy • Conservation and Demand Side Management
<u>Renewable Solar Alternatives</u>	<p><u>Alternative Project Implementation</u></p> <ul style="list-style-type: none"> • Phased Approval alternative
<ul style="list-style-type: none"> • Parabolic Trough Technology • Stirling Dish Technology • Linear Fresnel Technology • Solar PV Technology • Distributed Solar Technology 	

4.2 Agency Preferred Alternative

After the release of the Draft EIS for public review in November 2009, the BLM continued to coordinate and consult regarding possible refinements to avoid sensitive resources on the ISEGS project site. As a result, two additional project alternatives that could avoid or reduce impacts were developed by the applicant, and were analyzed by the BLM in the Supplemental Draft EIS. These alternatives included the Mitigated

Ivanpah 3 Alternative and the Modified I-15 Alternative. These alternatives included modification of the project boundaries in order to avoid sensitive resources, a reduction in overall project acreage from 4,073 acres to 3471.36 acres, a reduction in the number of heliostats, and a resulting reduction in the power output from 400 MW in the proposed project to 370 MW in each of the alternatives. Following analysis and comparison of the proposed project, Mitigated Ivanpah 3, and Modified I-15 Alternatives in the Supplemental Draft and Final EISs, the 370 MW Mitigated Ivanpah 3 Alternative has been identified by the BLM as the Environmentally Preferred Alternative.

5. Agency and Public Involvement

5.1 Scoping

BLM solicited interested members of the public and agencies through the NEPA scoping process. BLM published a Notice of Intent to develop the EIS and amend the CDCA Plan in the Federal Register (Vol. 72, No. 214, page 62671) on November 6, 2007. The initial public scoping meeting was held on January 4, 2008, and coincided with the Informational Hearing held by the CEC. On January 9, 2009, BLM published a notice of an extension of the public scoping period and an additional joint public scoping meeting was held on January 25, 2008.

Following the scoping period, the CEC and BLM held additional joint Issue Resolution workshops which were announced and made available to the public. These workshops were held on June 23, 2008 in Primm, NV and on July 31 and December 15, 2009 in Sacramento, CA. The CEC continued to accept and consider public comments and granted petitions to intervene to eight interested groups including Defenders of Wildlife, Sierra Club, Basin and Range Watch, and Center for Biological Diversity (June 2, 2009), California Native Plant Society, Western Watersheds, CURE, and San Bernardino County. Although not officially part of BLM's NEPA process, BLM's NEPA analysis was supported by information received through these activities.

The BLM public participation process included soliciting comments regarding the scope of the analysis from other government agencies, the public, and non-governmental organizations.

5.2 Draft EIS Public Comment Period

The Notice of Availability of the DEIS was published on November 10, 2009; the 90-day public review and comment period ended on February 11, 2010. During the public

comment period, a variety of activities occurred in which BLM received additional information regarding the proposed project and potential alternatives, impacts, and mitigation measures. These activities included:

- Receipt of comments from the public, and other local, State, and federal agencies during the public comment period;
- Public testimony by CEC staff and consultants, BrightSource (Solar Partners) staff and consultants, and intervenors associated with the CEC certification process for ISEGS;
- Workshops, involving BLM staff and consultants as well as the above groups, to consider and evaluate impact analyses and mitigation approaches; and
- Submittal of additional technical reports, project design information, impact analyses, and applicant-proposed mitigation measures by Solar Partners.

5.3 Supplemental Draft EIS Public Comment Period

After publication of the DEIS, additional information regarding two of the alternatives (the Reduced Acreage Alternative and the I-15 Alternative) was obtained by BLM through the CEC public hearing and BLM public comment processes. Based on the receipt of these additional data, BLM concluded that the rationale for eliminating the Reduced Acreage and I-15 Alternatives in the DEIS was insufficient, and that these two alternatives merited more detailed evaluation in a Supplemental DEIS (SDEIS). The Notice of the Availability of the SDEIS was published on April 16, 2010; the 45-day public review and comment period ended on June 1, 2010.

Solar Partners' Application for Certification to the CEC the Energy Commission's PSA, and the joint BLM/CEC FSA/DEIS are all publicly available on the Energy Commission website at <http://www.energy.ca.gov/sitingcases/ivanpah/index.html>.

5.4 Final EIS Public Comment Period

The U.S. Environmental Protection Agency's (EPA's) NOA of the FEIS was issued on August 6, 2010. Release of the FEIS initiated an additional 30-day comment period, which closed on September 7, 2010. The FEIS was distributed to a variety of federal, State, and local government agencies, elected officials, environmental organizations, Native American tribes, and other interested parties for review. The comments received on the Final EIS and BLM's responses to those comments are summarized in Appendix 1. BLM has considered all comments received on the FEIS in the development of this ROD. In addition, the BLM will:

- Distribute a news release about the ROD in the local and regional media;
- Send the ROD to all those on the distribution list; and
- Make the ROD available on the BLM website and to all who request a copy.

5.5 Protest Period

The EPA Notice of Availability of the Final EIS was issued on August 6, 2010. Release of the Final EIS initiated the 30-day protest period, which closed on September 7, 2010. During that period, any person who participated in the planning process and believed they would be adversely affected by the CDCA Plan amendment had the opportunity to protest the proposed amendment to the Director of the BLM. Six formal protest letters were filed with the BLM. Protest issues included:

- range of alternatives
- special status species, including desert tortoise and section 7 consultation
- wild horses and burros
- baseline data adequacy
- response to DEIS and FEIS comments
- multiple use mandate of FLPMA
- consistency with CDCA multiple use class "L"
- consistency with the CDCA plan
- adequacy of resource inventory
- cultural resources/tribal consultation
- groundwater.

All protesting parties received response letters from the BLM Director conveying the Director's decision on the concerns raised in their protests. The responses concluded that BLM followed the applicable laws, regulations, and policies and considered all relevant resource information and public input in developing the CDCA Plan Amendment/FEIS. Therefore, all protests were denied and no changes were made to the proposed CDCA Plan Amendment decision as a result of the protests. As a point of clarification, translocation is not addressed in BLM Manual 1745 – Introduction, Transplant, Augmentation and Re-Establishment of Fish, Wildlife and Plants (1992), as suggested on pages A.2-34 and 35 in the Final EIS (response to comment). Detailed information on protests may be found on the BLM Washington Office website at:

http://www.blm.gov/wo/st/en/prog/planning/protest_resolution.html

5.6 Summary of Consultation with Other Agencies and Entities

The BLM and the project applicant have been consulting and coordinating with public agencies that may be requested to take action on the ISEGS project and other interested parties as part of one or more of the following project phases: planning, scoping, public review of the Draft EIS, public review of the SDEIS, and/or public review of the Final EIS. Those consultation and coordination activities are addressed throughout this ROD and are summarized in the following sections.

5.6.1 Governor's Consistency Review

The proposed CDCA Plan Amendment was reviewed by the Governor's Office of Planning and Research following the issuance of the Final EIS and was found to be consistent with State and local plans.

5.6.2 U.S. Fish and Wildlife Service Consultation

The U.S. Fish and Wildlife Service (USFWS) has jurisdiction to protect threatened and endangered species under the Endangered Species Act (ESA). Formal consultation with the USFWS under Section 7 of the ESA is required for any federal action that may adversely affect a federally-listed species. The desert tortoise (*Gopherus agassizii*), which occurs in the proposed project area, is a federally-listed threatened species, and therefore, formal consultation with the USFWS is required. This consultation was initiated through the preparation and submittal of a Biological Assessment (BA) which describes the proposed project to the USFWS. Following review of the BA, the USFWS issued its Biological Opinion (BO), titled "Biological Opinion on BrightSource Energy's Ivanpah Solar Electric Generating System Project, San Bernardino County, California [CACA-48668, 49502, 49503, 49504]", concluding that the action would not jeopardize the continued existence of the desert tortoise. The BO also includes terms and conditions that will be followed by the applicant to reduce any anticipated adverse impacts.

5.6.3 National Historic Preservation Act Consultation

A key part of a cultural resources analysis under NEPA and Section 106 of the National Historic Preservation Act of 1966 (NHPA) is to determine which of the cultural resources that a proposed or alternative action may affect are important or historically significant.

In accordance with 36 CFR Part 800.14(b), the BLM has prepared a Programmatic Agreement (PA) in consultation with the Advisory Council on Historic Preservation (ACHP), the State Historic Preservation Officer (SHPO), interested tribes (including tribal governments as part of government-to-government consultation), and other interested parties. The PA will govern the continued identification and evaluation of historic properties (eligible for the National Register) and historical resources (eligible for the California Register of Historic Places), as well as the resolution of any effects that may result from the ISEGS project. Historic properties and historical resources are significant prehistoric and historic cultural resources as determined by the BLM. The executed PA is provided in Appendix 3, Programmatic Agreement.

5.6.4 Native American Tribal Consultation

The BLM has consulted with the Native American groups that may have an interest in the project area. The BLM is conducting the ongoing Native American consultation for the proposed project. The results of that consultation, to date, follow:

CH2M HILL, the consultant to the applicant, contacted the California Native American Heritage Commission (NAHC) on June 27, 2007 to request that the NAHC search its Sacred Lands File to determine whether there are any reported Native American cultural resources in the project area of analysis, and to request that the NAHC provide a list of Native American contacts that may have knowledge of cultural resources in that area. On June 29, 2007, CH2M HILL, on the basis of the response from the NAHC, sent out letters to initiate correspondence with the Native American groups that the NAHC thought may have an interest in the project area:

- Cahuilla Band of Mission Indians of the Cahuilla Reservation
- Ramona Band of Cahuilla Mission Indians of California
- San Manuel Band of Serrano Mission Indians of the San Manuel Reservation
- Chemehuevi Indian Tribe of the Chemehuevi Reservation
- AhaMaKav Cultural Society, Fort Mojave Indian Tribe
- Morongo Band of Cahuilla Mission Indians of the Morongo Reservation
- Fort Mojave Indian Tribe of Arizona, California, and Nevada
- Serrano Nation of Indians
- San Fernando Band of Mission Indians

The BLM has also sought to engage Native American groups beyond those on the NAHC contact list that may have an interest in the lands in the project area of analysis and with which BLM maintains ongoing relationships. BLM Needles Field Office staff sent out letters initiating consultation with potentially affected tribes on October 4, 2007. On December 6, 2007, BLM submitted additional letters to the balance of the groups that the NAHC thought may have an interest in the project area. The purpose of the BLM letters was to initiate formal federal contact with Native American groups about the proposed project and to initiate government-to-government consultation with those groups that are federally recognized. BLM Needles Field Office staff sent out a subsequent letter on March 5, 2009 to the recipients of its initial letter to inform them of the discovery of ISEGS-01, an archaeological site to the east of the project site (see "May 23, 2008 Pedestrian Reconnaissance Survey of Project Area Inselbergs" and "Investigation to Evaluate Archaeological Site ISEGS-01" subsections, below), to solicit input on and concerns about the new archaeological site, request information on any cultural or religious values that might be affected by the proposed project, and to inform them that the results of additional archaeological survey on the hills that flank the project site will be made available to them on request. On December 16, 2009, BLM submitted the Draft EIS to all of the Tribes. On April 16, 2010, BLM submitted the Supplemental Draft EIS to potentially affected Tribes.

The June 29, 2007 response of the NAHC to the above request says that the Sacred Lands File did not indicate any Native American cultural resources in the immediate project area. CH2M HILL mailed and emailed letters to each of the contacts on the June 29 list asking them to please contact the consultant if they had any knowledge of traditional cultural properties or areas of traditional cultural value in the project area, or if they had any concerns about the proposed project. As of August 13, 2007, the month of the filing of the AFC for the proposed project, CH2M HILL had received no responses to the letters sent out on June 29.

BLM Needles Field Office staff has had little response from any of the Native American Tribes to any correspondence. A summary of BLM's contacts with Native American Groups includes:

- Colorado River Indian Tribes of the Colorado River Indian Reservation
- Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony
- Pahrump Paiute Tribe

BLM Native American consultation efforts are ongoing. BLM was contacted by the Fort Mojave Indian Tribe on October 21, 2009. This contact stated that the Chemehuevi used to live in and use the mountains surrounding the Ivanpah Valley for hunting and collecting, that the spring was named "Ivanpah" meaning 'good water' in Chemehuevi (not near the project area) and that he wanted to be included on future mailings.

The Chairman of the San Fernando Band of Mission Indians contacted the BLM by phone. His call was returned on May 4, 2010. He wanted to know if the project lands had been surveyed and if any prehistoric or Tribal sites had been found. He was assured that only historic period sites had been identified to date and that he will be informed if any were identified. His concern was that prehistoric sites indicating tribal activity might be destroyed.

On May 13, 2010, the Colorado River Indian Tribes identified Tribal concerns over the use of water for the project as water is an important resource to the Tribes.

5.6.5 State of California Coordination

5.6.5.1 California Energy Commission

The Draft EIS for this proposed project was developed as a joint environmental review document, the FSA/DEIS, under an MOU between the California Energy Commission and BLM California State Office. The BLM and the Energy Commission prepared a joint Final Staff Assessment/Draft EIS (FSA/DEIS) for the applicant-proposed 400 MW project. The FSA/DEIS was circulated for agency and public review on November 10, 2009, and the comments received on that report and responses to those comments were provided in Appendix A-1 of the FEIS, Summary of Public and Agency Comments on Draft Environmental Impact Statement (DEIS) and Agency Responses. Subsequent to the publication of the joint FSA/DEIS, the BLM and Energy Commission processes were conducted separately. The Energy Commission continued its certification process through the conduct of hearings, development of an Addendum to their FSA, and through their final certification in September 2010. Separately, BLM issued a Supplemental Draft EIS, which analyzed additional alternatives to the applicant's proposed project, on April 16, 2010, and then issued a Final EIS on August 6, 2010. Although the environmental review documents developed by the two agencies were stand-alone documents specific to those agencies environmental review processes, BLM and the Energy Commission each continued to provide opportunity for the other agency to review and provide technical input into their process.

5.6.5.2 Lahontan Regional Water Quality Control Board

The Lahontan Regional Water Quality Control Board (RWQCB) has the authority to protect both surface water and groundwater resources at the proposed project location. Throughout the EIS process, the Energy Commission, BLM, and the applicant have invited the RWQCB to participate in public scoping and workshops, and have provided

information to assist BLM in evaluating the potential impacts and permitting requirements of the proposed project. The RWQCB has responded by providing comments that have been evaluated and incorporated into the EIS analysis. The RWQCB has also made a determination that the proposed project will impact waters of the state, and has specified conditions to satisfy requirements of a dredge and fill permit/waste discharge requirements. These requirements have been included as mitigation measures.

5.6.5.3 California Department of Fish and Game

The California Department of Fish and Game (CDFG) has the authority to protect water resources of the state through regulation of modifications to streambeds, under Section 1602 of the Fish and Game Code. The Energy Commission, BLM, and the applicant have provided information to CDFG to assist in their determination of the impacts to streambeds, and identification of permit and mitigation requirements. The applicant filed a Streambed Alteration Agreement with CDFG on June 2, 2009. The requirements of the Streambed Alteration Agreement will be included as a recommended Mitigation Measure. CDFG also has the authority to regulate potential impacts to species that are protected under the California Endangered Species Act (CESA). On May 22, 2009, the applicant filed an application for authorization for incidental take of the desert tortoise under Section 2081(b) of the CESA. The requirements of the Incidental Take Permit have been included as a recommended Mitigation Measure.

5.6.5.4 Mojave Desert Air Quality Management District

The Mojave Desert Air Quality Management District (MDAQMD) has been designated as the agency responsible for permitting and compliance associated with the Clean Air Act. The MDAQMD issued the Preliminary Determination of Compliance (PDOC) for the ISEGS project on December 23, 2008, and the Final Determination of Compliance (FDOC), second revision version Rev. B, on July 15, 2009. On April 15, 2010, the District issued Revision C of the FDOC. The MDAQMD issued this revision to the FDOC primarily to reflect equipment changes associated with the applicant's Mitigated Ivanpah 3 proposal that includes elimination of one emergency generator and reduction in the size and usage of the Ivanpah 3 boiler to match those of Ivanpah 1 and 2. Compliance with all District rules and regulations was demonstrated to the District's satisfaction in the DOC. The District's FDOC conditions are presented in the list of mitigation measures AQ-1 through AQ-31, in Section 4.1.4 of the Final EIS.

5.6.6 Other

The U.S. Army Corps of Engineers (USACE) has jurisdiction to protect water quality and wetland resources under Section 404 of the Clean Water Act. Under that authority, USACE reviews proposed projects to determine whether they may impact such resources, and/or be subject to a Section 404 permit. Throughout the Draft EIS process, the Energy Commission, BLM, and the applicant provided information to the USACE to assist them in making a determination regarding their jurisdiction and need for a Section 404 permit. The USACE rendered a final opinion on May 28, 2009 concluding that the project does not affect waters of the U.S. and thus, does not require such a permit.

The National Park Service manages the Mojave National Preserve (MNP), which is located near the proposed project area. Because of the proximity of the MNP, the Park Service has been invited to participate in scoping meetings and public workshops, and was provided the opportunity to review and provide comment on the Preliminary Staff Assessment (PSA) and Draft EIS.

On March 18, 2008, the BLM California Desert District entered into an MOU with the County of San Bernardino to coordinate environmental reviews for renewable energy projects on public land within the County. Under this MOU, BLM invites the County to become a cooperating agency for EISs, and provides opportunities for County staff to review and participate in technical discussions and analyses. For the proposed project, the County has elected to become a cooperating agency. BLM continues to provide the County with project-related documentation for their review and evaluation, and the County has provided guidance for protection of groundwater resources.

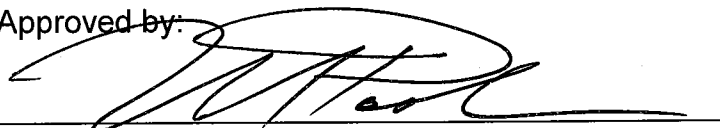
6. Final Agency Action

6.1 Land Use Plan Amendment

It is the decision of the Bureau of Land Management (BLM) to approve the Proposed Plan Amendment to the California Desert Conservation Area Plan (CDCA Plan, 1980, as amended) to allow a solar energy generation facility on the ISEGS site. The Proposed Plan Amendment and related Environmental Impact Statement (EIS) was published on July 28, 2010 in the Federal Register. I have responded to and resolved six protests on the Proposed Plan Amendment and, in accordance with BLM regulations, 43 CFR 1610.5-2, my decision on the protests is the final decision of the Department of the Interior (DOI).

Based on the recommendation of the State Director, California, I hereby approve the Proposed Plan Amendment. This approval is effective on the date this Record of Decision is signed.

Approved by:



Mike Pool
Deputy Director
Bureau of Land Management

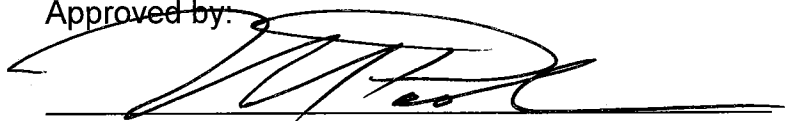
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6.2 Right-of-Way Authorization and Route Designation Decision

It is my decision to approve four solar energy right-of-way leases/grants to Solar Partners I, Solar Partners II, and Solar Partners VIII, LLC, subject to the terms, conditions, stipulations, Plan of Development, and environmental protection measures developed by the Department of the Interior and reflected in this Record of Decision. It is my further decision to close portions of three open routes within the solar energy power facility site as described in this Record of Decision and Final EIS. These decisions are effective on the date this Record of Decision is signed.

Approved by:



Mike Pool
Deputy Director
Bureau of Land Management

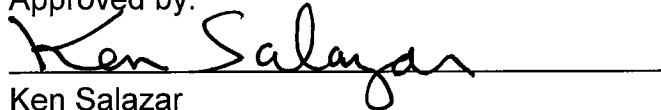
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6.3 Secretarial Approval

I hereby approve these decisions. My approval of these decisions constitutes the final decision of the Department of the Interior and, in accordance with the regulations at 43 CFR 4.410(a)(3), is not subject to appeal under Departmental regulations at 43 CFR Part 4. Any challenge to these decisions, including the BLM Authorized Officer's issuance of the right-of-way as approved by this decision, must be brought in federal district court.

Approved by:



Ken Salazar
Secretary
U.S. Department of the Interior

OCT 07 2010

Date

7. Appendices

7.1 FEIS Comment Responses

7.2 Biological Opinion

7.3 Programmatic Agreement

7.4 Compliance Monitoring Plan

7.5 Location Map

7.6 Mitigation Measures

