

5.6 Land Use

5.6.1 Introduction

The Applicant proposes to develop a solar energy project called the Ivanpah Solar Electric Generating System (Ivanpah SEGS). It will be located in southern California's Mojave Desert, near the Nevada border, to the west of Ivanpah Dry Lake. The project will be located in San Bernardino County, California, on federal land managed by the Bureau of Land Management (BLM). Because the project will be located entirely on federal land, it is under federal jurisdiction. It will be constructed in three phases: two 100-megawatt (MW) phases (known as Ivanpah 1 and 2) and a 200-MW phase (Ivanpah 3). The phasing is planned so that Ivanpah 1 (the southernmost site) will be constructed first, followed by Ivanpah 2 (the middle site), then Ivanpah 3 (the 200-MW plant on the north), though the order of construction may change. Each 100-MW site requires about 850 acres (or 1.3 square miles); the 200-MW site is about 1,660 acres (or about 2.6 square miles). The total area required for all three phases, including the Administration/Operations and Maintenance building and substation, is approximately 3,400 acres. The Applicant has applied for a right-of-way grant for the land from BLM. Although this is a phased project, it is being analyzed as if all phases are operational.

The heliostat (or mirror) fields focus solar energy on the power tower receivers near the center of each of the heliostat arrays (the 100-MW plants have three arrays and the 200-MW plant has four arrays). In each plant, one Rankine-cycle reheat steam turbine receives live steam from the solar boilers and reheat steam from one solar reheater—located in the power block at the top of its own tower. The solar field and power generation equipment are started each morning after sunrise and insolation build-up, and shut down in the evening when insolation drops below the level required to keep the turbine online.

Ivanpah 1, 2, and 3 will be interconnected to the Southern California Edison (SCE) grid through upgrades to SCE's 115-kilovolt (kV) line passing through the site on a northeast-southwest right-of-way. These upgrades will include the construction by SCE of a new 220/115-kV breaker-and-a-half substation between the Ivanpah 1 and 2 project sites. This new substation and the 220-kV upgrades will be for the benefit of Ivanpah and other Interconnection Customers in the region. The existing 115-kV transmission line from the El Dorado substation will be replaced with a double-circuit 220-kV overhead line that will be interconnected to the new substation. Power from Ivanpah 1, 2 and 3 will be transmitted at 115 kV to the new substation. SCE may add three new 115-kV lines to increase capacity to the existing El Dorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115-kV line heading southwest. The timing of this upgrade depends upon the development of wind projects ahead in the queue, and is not affected by the Ivanpah SEGS project.

Each phase of the project includes a small package natural gas-fired start-up boiler to provide heat for plant start-up and during temporary cloud cover. The project's natural gas system will be connected to the Kern River Gas Transmission Line, which passes less than half a mile to the north of the project site. Raw water will be drawn daily from one of two onsite wells, located east of Ivanpah 2. Each well will have sufficient capacity to supply water for all three phases. Groundwater will go through a treatment system for use as boiler make-up water and to wash the heliostats. To save water in the site's desert environment,

each plant will use a dry-cooling condenser. Water consumption is, therefore, minimal (estimated at no more than 100 acre-feet/year for all three phases). Each phase also includes a small onsite wastewater plant located in the power block that treats wastewater from domestic waste streams such as showers and toilets. A larger sewage package treatment plant will also be located at the Administration Building/Operations and Maintenance area, located between Ivanpah 1 and 2. Sewage sludge will be removed from the site by a sanitary service provider. No wastewater will be generated by the system, except for a small stream that will be treated and used for landscape irrigation. If necessary, a small filter/purification system will be used to provide potable water at the Administration Building.

This subsection provides an inventory of existing and designated land uses at the Ivanpah SEGS project site, including the proposed power plant, transmission lines, natural gas line, water line and sewer system and evaluates the proposed project's conformity with applicable land use plans and policies. A full description of the project is provided in Section 2.0, Project Description.

The land use laws, ordinances, regulations, and standards (LORS) that are applicable to the project are listed in Section 5.6.2. Although the project is subject to federal and state permitting jurisdiction, County LORS have been included to comply with the California Energy Commission (CEC) siting guidelines. A discussion of existing land use in the project study area is included in Affected Environment, Section 5.6.3. Recent or proposed U.S. Department of the Interior, BLM Land Management Plan and San Bernardino County Zoning and General Plan amendments are described in Section 5.6.4 and recent discretionary reviews by public agencies are provided in Section 5.6.5. The environmental analysis to determine potential impacts due to implementation of the project and potential cumulative effects of the project are provided in Section 5.6.6 and Section 5.6.7, respectively. Mitigation for the project is discussed in Section 5.6.8 and agencies and agency contacts are included in Section 5.6.9. Additionally, permits and the permit schedule and the references cited in the preparing of this Application for Certification (AFC) are listed in Section 5.6.10 and Section 5.6.11, respectively.

For purposes of this analysis, the Study Area is defined as the area within 1 mile of the project site boundary and within 0.25 miles of the centerline of proposed linear facilities. All phases, the substation, the administration/warehouse building, and the linear facilities are within the site boundary with the exception of a few small segments. For example, a 0.5-mile-long portion of the natural gas pipeline, which would extend from the Kern River Gas Transmission Company to Ivanpah 1, is outside the site boundary. Other linears include transmission lines from the power block to the switchyard (a portion of which are outside the site boundaries); a new SCE 115/220-kV substation to be located between Ivanpah 1 and Ivanpah 2; and a small segment of water line that goes from the two wells to the east of Ivanpah 2 into the site. The Property Boundary is the larger ROW area that was included in the SF299 ROW grant applications submitted to BLM (see Figure 5.6-1).

5.6.2 Laws, Ordinances, Regulations, and Standards

This subsection lists the LORS that are applicable to Ivanpah SEGS. The power plant site and associated linear project features are located within unincorporated San Bernardino County on federal land administered by the U.S. Department of the Interior, BLM (Table 5.6-1). The BLM will require federal environmental review and a positive conclusion

before a Right-of-Way (ROW) agreement can be issued allowing use of the federal land. For the purposes of environmental review and permitting, the BLM will be the lead federal agency for compliance with the National Environmental Policy Act (NEPA) and the CEC will be the lead state agency for compliance with the California Environmental Quality Act (CEQA). The Applicant has been informed by both the CEC and the BLM of their intent to conduct a joint environmental review of the proposed project subject to the Memorandum of Understanding (MOU) Between the BLM, California Desert District, and the CEC Staff fully executed on August 8, 2007. It is expected that the two agencies will coordinate their analysis and issue joint environmental documents and separate decisions.

TABLE 5.6-1
Summary of Project Feature Jurisdictions

Project Feature	Land Use Jurisdiction
Proposed Power Plant	BLM
Transmission Lines	BLM
Industrial Water	BLM
Natural Gas Line	BLM
Package Sewage System	BLM*

* The package sewage treatment plant will handle onsite water treatment. The limited wastewater will be treated onsite and used for landscaping irrigation. The sewage sludge from the treatment plant will be removed from the site by a sanitary provider. It is expected that San Bernardino County will not have any ministerial permit requirements associated with the installation or operation of this system; however, if required, the Ivanpah SEGS will coordinate with the County,

5.6.2.1 Federal LORS

5.6.2.1.1 National Environmental Policy Act

The NEPA requires federal agencies reviewing projects under their jurisdiction to consider the environmental impacts associated with their construction and operation. The BLM/CEC Staff MOU (CEC and BLM, 2007) documents the relative roles, responsibilities and procedures to follow in conducting a joint environmental review of solar thermal power plant projects by the BLM and CEC staff. Under federal law, BLM is responsible for processing requests for rights-of-way to authorize the projects and associated transmission lines and other appurtenant facilities to be constructed and operated on land it manages. In processing the applications, BLM must comply with the NEPA. In the case of solar thermal power plant projects, this will be accomplished through preparation of Draft and Final Environmental Impact Statements (EIS) in coordination with the CEC and its Preliminary and Final Staff Analyses. Separate consultation requirements and associated documentation are required for Section 106 of the National Historic Preservation Act and Endangered Species Act (ESA) Section 7 consultations associated with the projects. These consultations will be completed by BLM during the process outlined in this MOU. BLM is also responsible for Native American consultation, including Government to Government consultation. The result of this cooperative effort is intended to result in a public participation process and environmental documents that fully meet BLM's requirements.

5.6.2.1.2 The California Desert Conservation Area Plan

The California Desert Conservation Area (CDCA) was designated by Congress in 1976 through the Federal Land Policy and Management Act (FLPMA) and covers 25 million acres of land. The BLM developed the CDCA Plan in 1980 and it serves as the land use guide for management of these public lands.

The Ivanpah SEGS site is located within areas in the CDCA that are designated Multiple-Use Class L (Limited Use) and Multiple-Use Class M (Moderate Use) according to the CDCA Map 1 Land-Use Plan 1999 (BLM, 1999). The Energy Production and Utility Corridors Element of the CDCA Plan (BLM, 1999) states that the BLM focuses on the same factors affecting public lands and their resources as those used by the CEC. These factors include: (1) consistency with the CDCA Plan, including the designation of proposed planning corridors; (2) protection of air quality; (3) impact on adjacent wilderness and sensitive resources; (4) visual quality; (5) fuel sources and delivery systems; (6) cooling-water source(s); (7) waste disposal; (8) seismic hazards; and (9) regional equity. The Proposed Northern and Eastern Mojave (NEMO) Desert Management Plan (July 2002) amends the BLM CDCA Plan as discussed below.

5.6.2.1.3 Northern and Eastern Mojave Desert Management Plan

The NEMO Desert Management Plan (July 2002) amends the BLM CDCA Plan for the area identified as the Northern and Eastern Mojave Desert. The Ivanpah SEGS site is located in the southeastern portion of the NEMO Planning Area Boundary. The NEMO Plan addresses threatened and endangered species conservation and recovery and adoption of public land health standards, evaluation of segments for eligibility in the National Wild and Scenic river system, and changes resulting from the California Desert Protection Act passed in 1994. The NEMO Plan also designates routes of travel in Desert Wildlife Management Areas consistent with Federal regulations. The NEMO Plan was prepared within the context of BLM's multiple use management mission through a coordinated process involving numerous local, state, and federal agencies and special interest groups.

5.6.2.1.4 BLM Clark Mountain Allotment Grazing Lease

The Ivanpah SEGS site is located within the existing BLM Clark Mountain Allotment Grazing Lease (Clark Mountain, allocation #09003). The Ivanpah SEGS 7,040-acre BLM (11 square miles) property boundary area is part of a larger 97,560-acre (150 square miles) grazing lease. The approximate 3,400-acre Ivanpah SEGS site boundary is 5.3 square miles out of the 150-square-mile grazing lease equivalent to approximately 3.5 percent of the area of the grazing lease. This 10-year lease expires in 2012. The NEMO Plan identifies the different grazing allotments. As part of the BLM grazing lease program, allotments are used to manage cattle grazing to ensure that there is adequate perennial forage while protecting environmental resources through the containment of cattle movement using fences and water developments.

Based upon the field work conducted for Ivanpah SEGS, there were no signs of recent cattle grazing within the Ivanpah SEGS project boundary. Pursuant to 43 CFR 4100, Section 4110.4-2(2)(b) Grazing Administration, the process to withdraw a BLM grazing lease to allow development requires a 2-year notification be given to the lease holder prior to the start of development. This notification would inform the lease holder that a portion of the grazing lease has been withdrawn. It is also possible for the grazing lessee to waive notice. It may be necessary for BLM to issue a decision with regard to removing land from the

grazing allocation as part of the Ivanpah SEGS Record of Decision (Torre, 2007, personal communication).

5.6.2.2 State LORS

5.6.2.2.1 Warren-Alquist Act

Pursuant to section 25500 of the Warren-Alquist Act, the CEC certification is in lieu of all state, regional and local permits and requirements. The AFC process is CEQA-equivalent under the Warren-Alquist Act, so it fulfills the requirements of CEQA. CEQA is codified in the California Public Resources Code, Sections 21000-21178.1. Guidelines for implementation of CEQA are codified in the California Code of Regulations (CCR) Sections 15000-15387. Table 5.6-2 below describes the LORS that would apply to the project. As described in Section 5.6.2.1.1, the Ivanpah SEGS will be processed jointly by the BLM and CEC Staff subject to the August 2007 MOU.

5.6.2.3 Local LORS

5.6.2.3.1 General Plans and Zoning Ordinances

Land use provisions included in every California city and county general plan (California State Planning Law, Government Code §65302 et seq.) reflect the goals and policies that guide the physical development of land in their jurisdiction. Consistent with CEC practices, this subsection includes a discussion of the project's conformity with land use designations and policies described in the San Bernardino County General Plan Conservation Element (San Bernardino County, 2007). The existing land uses are identified in Table 5.6-3 and the definitions of these designations is provided in Table 5.6-4. The project is also analyzed for conformity with local zoning ordinance designations described in the San Bernardino County Development Code as well as applicable San Bernardino County Ordinances (San Bernardino County, 2007). The conformity discussion is provided in Table 5.6-5. The County Development Code and ordinances are enforced by their respective planning and building departments. The Development Code is a regulatory tool used to implement the General Plan. It defines developments codes that dictate permitted uses as well as design requirements such as setbacks and height limits.

County of San Bernardino 2007 General Plan

The purposes of the San Bernardino County General Plan are to: (1) identify the community's land use, transportation, environmental, economic, and social goals and policies as they relate to land use and development; (2) form the basis for local government decision-making, including decisions on proposed development; (3) provide residents with opportunities to participate in the planning and decision-making processes of their community; and (4) inform residents, developers, decision-makers, and other cities and counties of the ground rules that guide development within the community.

The Ivanpah SEGS project would be located within the County's Desert Region of the General Plan. Policies and goals that would be applicable to land uses, if the County had jurisdiction, were identified within the Countywide Goals and Policies and Desert Region Goals and Policies of the Conservation Element (San Bernardino County, 2007).

San Bernardino County Development Code

The San Bernardino Development Code (San Bernardino County, 2007) implements the San Bernardino General Plan by classifying and regulating the uses of land and structures

within unincorporated San Bernardino County; by preserving and protecting the county's important agricultural, cultural, natural, open space and scenic resources; and by protecting and promoting the public health, safety, comfort, convenience, prosperity, and general welfare of residents and businesses in the County. More specifically, the purposes of the Development Code are to: (1) provide standards and guidelines for the continuing orderly growth and development of the County that will assist in protecting the character and identity of San Bernardino County and its distinct communities; (2) conserve and protect the County's important agriculture, cultural, natural, open space and scenic resources; (3) create a comprehensive and stable pattern of land uses upon which to plan transportation, water supply, sewerage, energy, drainage/flood control and other public facilities and utilities; (4) encourage the most appropriate uses of land in order to prevent overcrowding of land and avoid undue concentration of population, and maintain and protect the value of property; and (5) ensure compatibility between different types of development and land use.

The LORS relevant to the project are listed in Table 5.6-2.

TABLE 5.6-2
Laws, Ordinances, Regulations, and Standards Applicable to Ivanpah SEGS Land Use

LORS	Requirements/Applicability	Administering Agency	AFC Section Explaining Conformance
Federal			
NEPA	Requires consideration of environmental impacts from construction and operation through preparation of an EIS subject to the BLM/CEC Staff August 2007 MOU.	Bureau of Land Management Needles Field Office 1303 S. Highway 95 Needles, CA 92363-4228 (760) 326-7006	Section 5.6.2.1.1
CDCA Plan (1980, amended 1999)	The CDCA Plan is the land-use guide for management of public lands and resources within the CDCA.	Bureau of Land Management Needles Field Office 1303 S. Highway 95 Needles, CA 92363-4228 (760) 326-7006	Table 5.6-5
NEMO Plan	The NEMO provides a comprehensive framework for recovery of several listed species in the CDCA planning area as well as resource management policies including provisions for new development and modifications to grazing leases.	Bureau of Land Management Needles Field Office 1303 S. Highway 95 Needles, CA 92363-4228 (760) 326-7006	Table 5.6-5

TABLE 5.6-2
Laws, Ordinances, Regulations, and Standards Applicable to Ivanpah SEGS Land Use

LORS	Requirements/Applicability	Administering Agency	AFC Section Explaining Conformance
State			
Warren-Alquist Act and CEQA California Public Resources Code, Sections 21000-21178.1, including Guidelines for implementation of CEQA are codified in the CCR Sections 15000-15387.	Establishes policies and procedures for review of proposed thermal power plants in California 50 MW or larger, subject to the BLM/CEC Staff August 2007 MOU.	California Energy Commission 1516 Ninth Street Sacramento, CA 95814	Section 5.6.2.2.1
Local			
County of San Bernardino General Plan Conservation Element (2007)	Comprehensive, long-range plan, provides policies and goals to serve as the guide for the physical development of the county.	County of San Bernardino Land Use Services Dept. 385 North Arrowhead Ave, 1st Floor San Bernardino, CA 92415-0182 (909) 387-8311	Table 5.6-5
San Bernardino County Development Code (2007)	The Development Code implements the San Bernardino County General Plan by classifying and regulating the uses of land and structures within unincorporated San Bernardino County.	County of San Bernardino Land Use Services Dept. 385 North Arrowhead Ave, 1st Floor San Bernardino, CA 92415-0182 (909) 387-8311	Table 5.6-5

5.6.3 Affected Environment

The following text discusses the affected environment for the study area (i.e., 1 mile surrounding the project site and 0.25 mile from the center line of the linear facilities).

5.6.3.1 General Description of Study Area

The project site is located in northeastern San Bernardino County, west of Interstate 15 (I-15) about 3.1 miles south of the California/Nevada border (see Figure 2.1-1). San Bernardino County comprises a portion of the eastern border of California and is itself bordered to the east by Clark County, Nevada and the Arizona counties of La Paz and Mohave. The California counties of Inyo, Kern, Los Angeles, Orange, and Riverside border the northern, western, and southern boundaries of San Bernardino County. Land uses in the vicinity of the project area are largely BLM-managed open space. Existing utility corridors are located throughout the BLM property and between Ivanpah 1 and 2.

The closest community to the project site is Primm, Nevada, with a population of 436 and located approximately 4.5 miles northeast of the project area. Las Vegas, Nevada is located approximately 48 miles to the north of the project site. The city of San Bernardino is located

approximately 145 miles southwest and Edwards Air Force Base is located approximately 145 miles west-southwest of the site. Ivanpah Dry Lake, which is bisected by I-15 is located approximately 1.6 miles east of the project site.

I-15 is an interstate highway providing access from the more populous areas of southern California to the state of Nevada. I-15, oriented approximately north-northeast/south-southwest near the project, is located to the east of the project area and crosses into Nevada approximately 4 miles northeast of the project site. State Route (SR) 164 intersects I-15 just south of the project area. The I-15 Yates Well Road northbound and southbound off-ramps are the exits for access to the project site.

A residential trailer is located amidst industrial facilities adjacent to the Yates Well Road northbound off-ramp of I-15 that appear to be part of a staging area for the I-15 construction work. The Primm Valley Golf Club, which is west of I-15, is located approximately 0.5 mile northeast of Ivanpah 1's eastern boundary.

Access to the site is provided by Colosseum Road, an existing road that is paved to the golf courses, but unpaved the remainder of its length.

5.6.3.2 Existing Land Uses, Planning, and Zoning Designations

5.6.3.2.1 Federal

A BLM land management plan is a plan for the management of a defined resource area that includes goals and policies to guide the management of the land. A county general plan is a plan for future development that includes goals and policies to guide development. The county's development code, similar to zoning ordinances, is a regulatory tool used to implement the General Plan. It defines zones that dictate permitted uses as well as design requirements, such as setbacks and height limits.

The Ivanpah SEGS site and linear features associated with the project are located entirely on federal land under BLM's jurisdiction and are, therefore, subject to the provisions of BLM's CDCA Plan (Revised, 1999). The Energy Production and Utility Corridors Element of the CDCA Plan includes the full implementation of a network of planning corridors to meet the projected utility needs to the year 2000, the identification of environmental constraints and siting procedures, and the identification of potential sites for geothermal development, wind energy parks, and power plants. Sixteen planning corridors were identified in the CDCA Plan. They are intended to include new electrical transmission lines of 161 kV or above, all pipelines with diameters greater than 12 inches, cables for interstate communications, and major aqueducts or canals for inter-basin transfers of water. The corridors vary in width from 2 to 5 miles.

The CDCA Plan also identified nine contingent corridors in the event transmission needs change. A contingent corridor can be activated with an amendment to the CDCA Plan. Since the CDCA Plan was signed, the BLM has also designated new corridors, provided permission to construct oil and gas pipelines and fiber optic cables outside corridors, and activated portions of contingent corridors as project-specific amendments to the CDCA Plan (FWS, 2002).

The CDCA Plan also allows BLM to site microwave tower sites, and conventional, solar, geothermal, wind and nuclear power plants on BLM lands within the CDCA (FWS, 2002).

The project site is located within an area that is designated Class L Limited Use and Class M Moderate Use according to the CDCA Map 1, Land-Use Plan 1999 (BLM, 1999) (Figure 5.6-1, located at the end of this subsection). Existing land uses and CDCA Plan land use designations for the study area are defined in Table 5.6-3. Definitions of Planning Designations in Project Land Use Study Area are identified in Table 5.6-4. The NEMO Management Plan amends the CDCA Plan as described in Section 5.6.2.1.2. The land use designations for the site remain the same.

TABLE 5.6-3
Existing Land Uses and General Plan Designations within the Study Area

Project Component	Existing Land Uses	Land Management or General Plan Land Use and Zoning Designations
Site Vicinity	SCE 115kV transmission line is located adjacent to the site boundary in a southwest to northeast orientation. The Kern River Gas Transmission Company line is located less than a half mile from the Ivanpah 3 boundary.	BLM Multiple-Use Class L Limited Use Multiple-Use Class M Moderate Use County of San Bernardino – General Plan and Development Code Land Use Zones Resource Conservation (RC)
Ivanpah SEGS Site	The project site is mostly undeveloped, vacant land. Existing transmission lines cross through the project site in a southwest to northeast orientation between Ivanpah 1 and Ivanpah 2. Colosseum Road passes through the southeast portion of Ivanpah 2 and travels in a west to southwesterly direction. Unpaved dirt roads also cross the project site, some of which are located adjacent to the transmission lines. No additional development is present on the site.	BLM Multiple-Use Class L Limited Use Multiple-Use Class M Moderate Use County of San Bernardino – General Plan and Development Code Land Use Districts Resource Management District and Resource Conservation (RC)
Gas Line	Onsite and offsite gas lines are located on structurally undeveloped land. The Ivanpah 1 gas line will cross under the existing power line. The gas lines will cross an existing unpaved road.	BLM Multiple-Use Class L Limited Use Multiple-Use Class M Moderate Use County of San Bernardino – General Plan and Development Code Land Use Districts Resource Management District and Resource Conservation (RC)
Transmission Lines	Onsite and offsite transmission lines will be located for the most part within the site boundary, those linears that extend outside of the site boundary are located within existing rights-of-way.	BLM Multiple-Use Class L Limited Use Multiple-Use Class M Moderate Use County of San Bernardino – General Plan and Development Code Land Use Districts Resource Management District and Resource Conservation (RC)

TABLE 5.6-4
Definitions of Land Use Planning and Habitat Conservation Designations in Project Study Area

Land Management Plan or General Plan Land Use Designation	Permitted Uses
BLM – Needles Field Office –CDCA Plan	
Class L – Limited Use	<p>This designation is intended to protect sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as 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.</p> <p>The CDCA Plan identifies the following guidelines (permitted uses) for Class L lands:</p> <p>Electrical Generation Facilities - Electric generation plants, including wind/solar and geothermal, may be allowed;</p> <p>Transmission Facilities - New and existing transmission facilities may be allowed within designated corridors and right-of-ways;</p> <p>Distribution Facilities - New and existing distribution facilities may be allowed within existing rights-of-way where available;</p> <p>Communication Sites - New sites may be allowed and existing facilities may be maintained following guidelines;</p> <p>Fire Management - Fire suppression in accordance with fire management plans;</p> <p>Vegetation Harvesting – Removal of vegetation may be allowed by permit;</p> <p>Livestock Grazing – Livestock grazing is allowed;</p> <p>Mineral Exploration and Development – Exploration/development of leasable, locatable, and saleable minerals may be allowed;</p> <p>Motorized –Vehicle Access/Transportation – Motorized vehicle access and transportation, including railroads and airports, may be allowed;</p> <p>Recreation – Low to moderate use recreational activities may be allowed;</p>
Class M – Moderate Use	<p>This designation is intended provide for a controlled balance between higher intensity use and protection of public lands. This class provides for a wide variety of present and future uses such as mining, livestock grazing, recreation, energy, and utility development. Class M management is also designed to conserve desert resources and to mitigate damage to those resources that permitted uses may cause.</p> <p>The CDCA identifies the following guidelines (permitted uses) for Class M lands:</p> <p>Electrical Generation Facilities – All types of electric generation plants, including wind/solar and geothermal, may be allowed;</p> <p>Transmission Facilities - New and existing transmission facilities may be allowed within designated corridors and right-of-ways;</p> <p>Distribution Facilities - New and existing distribution facilities may be allowed within existing rights-of-way where available;</p> <p>Communication Sites - New sites may be allowed and existing facilities may be maintained ;</p> <p>Fire Management - Fire suppression in accordance with fire management plans;</p> <p>Vegetation Harvesting – Removal of vegetation may be allowed by permit;</p> <p>Livestock Grazing – Livestock grazing is allowed;</p>

TABLE 5.6-4
Definitions of Land Use Planning and Habitat Conservation Designations in Project Study Area

Land Management Plan or General Plan Land Use Designation	Permitted Uses
	<p>Mineral Exploration and Development – Exploration/development of leasable, locatable, and saleable minerals may be allowed;</p> <p>Motorized –Vehicle Access/Transportation – Motorized vehicle access and transportation, including railroads and airports, will be allowed on existing routes of travel and new routes may be allowed;</p> <p>Recreation – Moderate to high use recreational activities may be allowed.</p>
Habitat Conservation Plan	Permitted Uses
BLM – Desert Tortoise Recovery Plan	
Desert Wildlife Management Act (DWMA)	This designation is intended to protect sensitive, natural, scenic, ecological, and cultural resource values. Public lands designated as Class L under the BLM Management Plan to provide for generally lower intensity, carefully controlled multiple use of resources, while ensuring that sensitive values are not significantly diminished.
County of San Bernardino – General Plan and Development Code	
Resource Conservation (RC) (General Plan Resource Management District)	The Resource Conservation (RC) land use zoning district provides sites for open space, and recreational, commercial and industrial activities including the following: residential uses, medical services, agricultural activities, mining, resource protection, offices, cemeteries, kennels, public safety, single-family homes on very large parcels and social care facilities, broadcasting facilities, electric power generation, transportation facilities, wind energy facilities, wireless communication facilities, similar and temporary structures and special events. All of these uses are either allowed or subject to permit approval from the County. Prohibited uses in this district include: indoor commercial entertainment, golf courses, schools, except for trade schools, sports or entertainment assemblies, homeless shelters, bed and breakfast inns, and solid waste disposal facilities.

The project site is in the general area addressed by the Desert Tortoise Recovery Plan (USFWS, 1994). The recovery plan describes a strategy for recovery and delisting of the desert tortoise. The project site does not lie within critical habitat for the desert tortoise; however, the Ivanpah critical habitat unit is located west, south, and southeast of the site. The project site is approximately 5 miles from the nearest portion of the Ivanpah critical habitat unit, just north of the I-15 and SR 164 interchange. Discussion of habitat conservation plans including the desert tortoise recovery plan and category descriptions is found in Section 5.2, Biological Resources.

5.6.3.2.2 County of San Bernardino

The County of San Bernardino General Plan (County of San Bernardino, 2007) is the county planning document that would be applicable to the Ivanpah SEGS and all associated linear features if not for the BLM and CEC permitting processes. The Ivanpah SEGS project would be located within the County's Desert Region of the General Plan. The Desert Planning Region is approximately 93 percent of the land within San Bernardino County and includes a wide variety of land types from mountain ranges; long, broad valleys; and dry lakes.

Permitted land uses associated with General Plan land use classifications that would be applicable to the project site, if the County had jurisdiction, are identified within the Conservation Element. Definitions of Planning Designations in Project Land Use Study Area are identified in Table 5.6-3 and defined in Table 5.6-4. Existing land uses and General Plan land use designations for the study area are shown in Figure 5.6-1.

Implementation of the General Plan occurs through classification and regulation of land uses and structures in the County Development Code. The provisions in the San Bernardino County Development Code that would be applicable to the Ivanpah SEGS project, if not for the BLM and CEC permitting processes, are identified in Table 5.6-3 and defined in Table 5.6-4. Unlike other counties or cities, San Bernardino County has incorporated a one map approach to the general plan land use designations and zones. According to the General Plan, this approach allows the use of a single map showing both General Plan land use designations and zoning classifications and assures consistency between both. These combined classifications are referred to as Land Use Zoning Designations in the General Plan and Land Use Zoning Districts in the County Development Code. Table 5.6-4 lists the uses allowed within this district.

5.6.3.2.3 Ivanpah SEGS Site

The total area of the project site, including all three phases, is approximately 3,400 acres (Figure 2.1-2). Existing transmission lines cross through the project site in a southwest to northeast orientation between Ivanpah 1 and Ivanpah 2. Unpaved dirt roads also cross the project site, some of which are located adjacent to the transmission lines. Other than transmission lines, no additional development is present on the site. The proposed power plant site is located in an area designated in the CDCA Plan as Multiple-Use Class L (Limited Use) and Multiple-Use Class M (Moderate Use) and in the San Bernardino County General Plan and Development Code as RC (Resource Conservation). CDCA Plan and San Bernardino County General Plan and Development Code land use districts are shown on Figure 5.6-1.

5.6.3.2.4 Linear Facilities

Transmission Lines

Ivanpah 1, 2 and 3 will be interconnected to the SCE grid through upgrades to SCE's 115-kV line passing through the site on a northeast-southwest right-of-way. These updates will include the construction by SCE of a new 220/115-kV breaker-and-a-half substation between the Ivanpah 1 and 2 project sites. This new substation and the 220-kV upgrades will be for the benefit of Ivanpah and other Interconnection Customers in the region. The existing 115-kV transmission line from the El Dorado substation will be replaced with a double-circuit 220-kV overhead line that will be interconnected to the new substation. Ivanpah 1, 2 and 3 electrical power generation will be transmitted at 115 kV to the new substation. SCE may add three new 115-kV lines to increase capacity to the existing El Dorado-Baker-Cool Water-Dunn Siding-Mountain Pass 115-kV line heading southwest. (For more information see Section 3.0, Transmission System Engineering). The timing of this upgrade depends upon the development of wind projects ahead in the queue, and is not affected by the Ivanpah SEGS project. The proposed transmission lines are located in areas designated in the CDCA Plan as Multiple-Use Class L and in the San Bernardino County General Plan and Development Code as RC Resource Conservation. CDCA Plan and San

Bernardino County General Plan and Development Code land use districts are shown on Figure 5.6-1.

Potable Water

Raw water would be drawn daily from one of two onsite wells, located east of Ivanpah 2. Each well would have sufficient capacity to supply water for all three phases. Well water will be processed through a package treatment plant to provide potable water for drinking, showers and toilet purposes.

Industrial Water

To save water in the site's desert environment, each power plant would use a dry-cooling condenser. Water consumption (estimated not to exceed 100 acre-feet/year (ac-ft/yr) for all three plants) would be mainly to provide water for washing the heliostats (or mirrors). As shown in the water balance diagram, water will be recycled through the system. The two wells are located in an area designated in the CDCA Plan as Multiple-Use Class L and in the San Bernardino County General Plan and Development Code as RC, Resource Conservation.

Natural Gas Line

Each phase of the project includes a small package natural gas-fired start-up boiler. The project's natural gas system would be connected to the Kern River Gas Transmission line, which passes less than half a mile to the north of the project site. Gas for the facility would be delivered via approximately 5.3 miles of new 4- to 6-inch diameter natural gas pipeline from the Kern River Gas Transmission Company line to Ivanpah 1. The gas line would connect to the Kern River line just north of the Ivanpah 3 boundary. The proposed natural gas line is located in an area designated in the CDCA Plan as Multiple-Use Class L and in the San Bernardino County General Plan and Development Code as RC, Resource Conservation. CDCA Plan and San Bernardino County General Plan and Development Code land use designations are shown on Figure 5.6-1.

Sewer Line

There are no sewer lines associated with the project; however, each power block and the Administration/Warehouse building include a small package sewage system for potable water streams, including showers and toilet. Sewage sludge would be removed from the site by a sanitary service. Liquid waste will be treated and used for landscape irrigation. The proposed treatment system is located in an area designated in the CDCA Plan as Multiple-Use Class L and in the San Bernardino County General Plan and Development Code as RC, Resource Conservation. CDCA Plan and San Bernardino County General Plan and Development Code land use designations are shown on Figure 5.6-1.

5.6.3.2.5 Recreation, Scenic, Agricultural, Natural Resource Protection, and Extraction, Educational, Religious, Cultural, and Historic and Unique Land Uses

Recreation Land Use

The nearest recreational land use within close proximity to the project study area is the Primm Valley Golf Club, Desert Course, which is located approximately 0.5 miles east of the Ivanpah 1 site boundary. The golf course is affiliated with the Primm Valley Casino Resorts located in Las Vegas, Nevada. This is a public course, with special rates for guests of Primm Valley Casino Resorts.

The Ivanpah Dry Lake is located approximately 1.6 miles east of the project site and covers approximately 35 square miles. This area is open to non-motorized vehicles and is a popular destination for activities such as kite buggying, land sailing, long-distance archery, and kite demonstrations.

The NEMO Plan area is also a popular area that provides diverse recreational and scenic opportunities for off-highway vehicle use.

Scenic Land Use

No designated scenic resources exist within the project study area. (See Section 5.13, Visual Resources, for more information on scenic resources in the study area.)

Agricultural Land Use

Based on a review of aerial photographs and field surveys, there are no agricultural uses within the proposed Ivanpah SEGS site. There are no lands mapped as Important Farmlands (as defined for the Farmland Mapping and Monitoring Program) (California Department of Conservation, 2004) within the project study area. The project study area is part of the existing BLM Clark Mountain Allotment Grazing Lease (Clark Mountain, allocation #09003).

Natural Resource Protection and Natural Resource Extraction Areas

No natural resource protection and extraction areas exist within the study area. However, in the vicinity of the project study area there are several mining operations including the inactive Colosseum aggregate mine located near Baker, California, approximately 30 miles southwest of the project site at the intersection of I-15 and State Route 127 and the Molycorp Mine, mill and chemical-processing facility of lanthanide metals, approximately 22 miles southwest of the project site north of I-15 near Halloran Springs, California. Molycorp also has mining facilities in Mountain Pass, California, approximately 8 miles southwest of the project site and near Nipton, California along State Route 164.

Education and Religious, and Unique Land Uses

There are no schools, day-care facilities, convalescent centers, or hospitals within, or in the immediate vicinity of, the project study area. No unique land uses occur in the study area.

Cultural and Historic Land Use

CH2M HILL conducted archival research; reviewed all cultural resource investigation reports within the Project Boundary; contacted all other interested agencies, Native American groups, and historic societies; and conducted a cultural resources field investigation. The results of the literature review indicated one site had previously been recorded within the Project Boundary. In addition, the survey performed by CH2M HILL resulted in the recordation of two new cultural resource sites and several isolated finds. The two new sites consist of an abandoned power line corridor and access road (see Section 5.3, Cultural Resources, for more information on cultural resources).

5.6.4 Recent or Proposed Development Code and General Plan Amendments

Recent or proposed BLM CDCA Plan and County of San Bernardino General Plan and Development Code amendments applicable to the project study area within the past 18 months are discussed below.

5.6.4.1 BLM

The NEMO Plan amends the CDCA Plan as described in Section 5.6.2.1.2. There have been no additional recent or proposed zoning or land use amendments within the last 18 months (O'Connell, 2007)

5.6.4.2 County of San Bernardino

San Bernardino County is in the process of revising the County General Plan to: update the General Plan Goals Policies and Maps (including associated land use district changes), establish 13 Community Plans, and revise Title 8 of the San Bernardino County Code (Development Code). There have been no additional recent or proposed development code or general plan amendments by San Bernardino County within the project study area (Rynerson, 2007) within the last 18 months.

5.6.5 Recent Discretionary Reviews by Public Agencies

Discretionary reviews are actions that require review and approval by an overseeing regulatory agency. There have been no discretionary reviews by either BLM or the County of San Bernardino within the project study area within the past 18 months (O'Connell, 2007 and Rynerson, 2007). The existing BLM Clark Mountain Allotment Grazing Lease (Clark Mountain, allocation #09003) was issued in 2002 and expires in 2012.

5.6.6 Environmental Analysis

5.6.6.1 Significance Criteria

Significance criteria for impacts to land use were determined through review of applicable state and local regulations. Because the Warren-Alquist Act is equivalent to a CEQA review, the following criteria developed from the CEQA Guidelines Appendix G, CEQA Checklist, were used to evaluate the potential environmental impacts of the project:

- Will the project physically divide an established community?
- Will the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
- Will the project conflict with any applicable habitat conservation plan or natural community conservation plan?
- Will the project convert prime farmland, unique farmland, or farmland of statewide importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?
- Will the project involve other changes in the existing environment which, given their location and nature, could result in conversion of Farmland to nonagricultural use?

5.6.6.2 Potential Effects on Land Use

1. Will the project physically divide an established community?

No impact. The project would not physically divide an established community because the power plant project site and linear features would be located on generally undeveloped federal property in unincorporated San Bernardino County and are not located within an established community. Therefore, the project would result in a finding of no impact under this criterion.

2. Will the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No impact. The project does not conflict with applicable land use plans, policies, or regulations adopted for the purpose of avoiding or mitigating an environmental effect. The project is located on land that is designated Multiple-Use Class L and Multiple-Use Class M by the BLM. Allowable uses for these land use designations include electrical generation facilities. Solar electrical generation facilities are allowed under both Multiple-Use Class L and Multiple-Use Class M designations. Therefore, the Ivanpah SEGS is consistent with the CDCA Plan.

Additionally, the project is located on land that is designated RC by the County of San Bernardino. Permitted uses within this district include electrical power generation facilities. A solar energy generation system (electrical power generation) would be an allowed use for RC designated land with a conditional use permit (if the County had permit jurisdiction, however, the CEC licensing process supersedes this permit requirement). The Ivanpah SEGS is consistent with the Resource Conservation designation within the General Plan and Development Code. Based on the above information; therefore, it is consistent with applicable land use plans, policies, or regulations.

3. Will the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No impact. The project site does not lie within critical habitat for the desert tortoise as identified in the Desert Tortoise Recovery Plan (Section 5.2, Biological Resources). Therefore, the project will not conflict with any applicable habitat conservation plans or natural community conservation plans. Therefore the project would result in a finding of no impact under this criterion.

4. Will the project convert prime farmland, unique farmland, or farmland of statewide importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?

No impact. No designated prime farmland, unique farmland, or farmland of statewide importance has been mapped on the project site or within the study area. It will be necessary for the project area that is contained within the existing BLM Clark Mountain Allotment Grazing Lease (Clark Mountain, allocation #09003) to be removed from the grazing lease prior to the start of project construction. These grazing lands are not

considered to qualify as important farmlands. Therefore, the project would result in a finding of no impact under this criterion.

5. Will the project involve other changes in the existing environment which, given their location and nature, could result in conversion of Farmland to nonagricultural use?

No impact. No agriculture uses or Williamson Act properties are present within the project study area. However, it will be necessary for the project area that is contained within the existing BLM Clark Mountain Allotment Grazing Lease (Clark Mountain, allocation #09003) to be removed from the grazing lease prior to the start of project construction. These grazing lands are not considered to qualify as important farmlands. Therefore, the project would result in no impact under this criterion.

5.6.6.2.1 Compatibility with Plans and Policies

The project is consistent with policies set forth in the BLM CDCA Plan and the San Bernardino County General Plan and Development Code. Table 5.6-5 summarizes the project's conformity with these applicable plans.

TABLE 5.6-5
Land Use Conformity with Applicable Plans and Policies

Plan Element/Chapter	Goal/Policy	Conformity
BLM-CDCA Plan		
Energy Production and Utility Corridors Element	1. Fully implement the network of joint-use planning corridors to meet projected utility needs to the year 2000. 3. Identify potential sites for geothermal development, wind energy parks, and power plants.	Yes: The project is designed to implement the joint-use corridors and will provide an estimated nominal output of 400 MWs of solar energy generated electricity.
Decision Criteria used for evaluating applications:		
	1. Minimize the number of separate rights-of-way by using existing rights-of-way as a basis for planning corridors; 4. Avoid sensitive resources wherever possible; 5. Conform to local plans whenever possible; 8. Consider ongoing projects for which decisions have been made; 9. Consider corridor networks that have taken into account power needs and alternative fuel resources.	Yes: The project would tie into existing rights-of-way, is designed to avoid sensitive resources, conforms to both the San Bernardino County Development Code and General Plan, considers cumulative effects (Section 5.6.7), and results in a solar electrical generation facility.

TABLE 5.6-5
Land Use Conformity with Applicable Plans and Policies

Plan Element/Chapter	Goal/Policy	Conformity
County of San Bernardino General Plan		
Conservation Element	<p>GOALS:</p> <p>GOAL CO-8: The County will minimize energy consumption and promote safe energy extraction, uses and systems to benefit local regional and global environmental goals.</p>	<p>Yes: Development of the project will result in alternative (solar) source of energy that will serve peak demand and thereby comply with these goals and policies. The project siting and design will avoid or minimize environmental impacts and the use of natural resources. The project helps the state meet its goals for renewable electricity generation.</p>
	<p>POLICIES:</p> <p>CO 8.1: Maximize the beneficial effects and minimize the adverse effects associated with the siting of major energy facilities. The County will site energy facilities equitably in order to minimize net energy use and consumption of natural resources, and avoid inappropriately burdening certain communities. Energy planning should conserve energy and reduce peak load demands, reduce natural resource consumption, minimize environmental impacts, and treat local communities fairly in providing energy efficiency programs and locating energy facilities.</p>	<p>Yes. Avoids burdening communities; reduces natural resource consumption through use of renewable power; minimizes environmental impacts.</p>
	<p>CO 8.3: Assist in efforts to develop alternative energy technologies that have minimum adverse effect on the environment, and explore and promote newer opportunities for the use of alternative energy sources.</p>	<p>Yes. The project would assist the County in promoting an alternative energy project that has a minimum effect on the environment.</p>
	<p>CO 9.2: The County will work with utilities and generators to maximize the benefits and minimize the impacts associated with siting major energy facilities. It will be the goal of the County to site generation facilities in proximity to end-users in order to minimize net energy use and natural resource consumption, and avoid inappropriately burdening certain communities.</p>	<p>Yes: Development of the project will result in alternative (solar) source of energy, located outside existing communities that minimizes the use of non-renewable natural resources, and thereby complies with these goals and policies.</p>

5.6.7 Cumulative Effects

The CEQA Guidelines (Section 15355) define cumulative impacts as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.

The CEQA Guidelines further note that:

The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time.

Cumulative land use impacts could occur if the development of the proposed project and other related past, present, and reasonably foreseeable probable future projects would be inconsistent with applicable plans and policies.

5.6.7.1 Current Setting

The Ivanpah Valley has been previously impacted by a variety of activities ranging from the construction and continued use of major highways and secondary roads, unimproved roads and trails, pipelines, the Union Pacific Railroad (UPRR), casinos, and retail businesses, recreational opportunities (such as the Primm golf courses and land sailing/racing on the Ivanpah Dry Lakebed), transmission lines and substations, and other facilities developed around the Nevada communities of Jean and Primm. Additionally, numerous applications for solar developments are currently under BLM review, several of which are within 30 miles of Ivanpah SEGS. However, at this time, none of these projects are far enough through the BLM process to be considered reasonably foreseeable for the purposes of analyzing cumulative effects. The existing development within the area has resulted in the loss of natural resources and the transition of the valley from its original undisturbed natural setting to one that, in many locations, represents an industrial or commercial setting. Much of the Ivanpah Valley is crossed by high voltage transmission lines. Indeed, much of the surrounding area has been previously disturbed by past actions.

5.6.7.2 Reasonably Foreseeable Future Actions in the Vicinity of Ivanpah SEGS

- Desert Xpress Rail Line
- Improvements to I-15
- Las Vegas Valley Water District Pipeline
- Southern Nevada Supplemental Airport (Ivanpah Valley Airport)
- Table Mountain Wind Energy Facility

5.6.7.2.1 Desert Xpress Rail Line

The Desert Xpress is a proposal to build a privately funded passenger train from Victorville, California, to Las Vegas, Nevada, using high-speed rail technology. The proposal was initiated to provide an alternative to automobile travel between the Los Angeles area and Las Vegas along I-15. This highway, the most direct automobile route between the Los Angeles area and Las Vegas, experiences heavy traffic congestion, especially on weekends. Currently, there is no passenger train service to Las Vegas. The city of Victorville was

selected as the location for the western-most terminal since it is within a one-hour drive of 12 million people. The train would travel up to 125 miles per hour and would make the 190-mile trip from Victorville to Las Vegas in about 1 hour 45 minutes, taking more than 2 hours off the typical automobile travel time.

According to the Federal Railroad Administration (FRA), the project would involve construction of a fully grade separated, dedicated double track passenger-only railroad along an approximately 200-mile corridor, from Victorville, California to Las Vegas, Nevada. Segment 4 of the proposed route (from Mountain Pass to Primm, Nevada) has two alternatives. It appears that Alternatives A and B would diverge north or south of I-15 west of the I-15/Nipon Road (Highway 164) interchange. Alternative A would leave the I-15 freeway corridor in the vicinity of Holloran Springs between Kelbaker Road and Cima Road and head south for approximately 4 miles before returning to the I-15 freeway corridor south of Primm. A portion of this alignment may encroach on the Mojave Desert Preserve, about one-half mile south of the I-15 freeway. Alternative B would leave the I-15 freeway corridor in the same vicinity and head north before returning to the I-15 freeway corridor south of Primm. A 4,000-foot long tunnel would be necessary for Alternative B (FRA, 2006). At its closest point (depending on the alternative), the roadway would be about 0.5 to 1.5 miles south of Ivanpah SEGS.

The FRA public scoping meetings on July 25 and July 26, 2006 initiated the preparation of an EIS for the project, and therefore, impacts caused by the implementation of this project have not yet been determined. The comment period on the scope of the EIS ended August 15, 2006. No schedule for completing the NEPA process or start of construction has been provided. No updates have been posted since the close of the scoping period.

5.6.7.2.2 Interstate 15 Improvements

I-15 is the major highway between Southern California and Las Vegas. As an international connection between the Canadian border in Montana, and the Mexican border south of San Diego (via I-805 and I-5), the freeway carries high volumes of interstate traffic, particularly trucks. Near the California-Nevada border, traffic volumes on I-15 in San Bernardino County average 40,000 vehicles per day. These volumes include both long-distance traffic and tourist traffic to and from the Las Vegas and Colorado River destinations. Traffic growth in the project area has been moderate (two to three percent per year), although traffic volumes have increased much faster further south.

The California Department of Transportation (Caltrans) has an ongoing plan for improvements to I-15 (Caltrans, 2004). Construction planned in the vicinity of the project (Barstow to Nevada state line) includes: 1) a proposed point-of-entry inspection station near the border with construction planned from Spring 2007 through Fall 2008; 2) a 12-mile-long northbound truck descending lane and pavement rehabilitation (scheduled for Spring 2007 through Summer 2008); and 3) regrading of median slopes (scheduled to be complete Fall 2007). The increasing traffic volumes, as well as the spot widening to the freeway, will serve to increase the highway's role in acting as a barrier to the natural movements of wildlife species, specifically the desert tortoise, as well as to potentially increased mortality resulting from vehicle strikes.

5.6.7.2.3 Las Vegas Valley Water District Pipeline

The Las Vegas Valley Water District has proposed construction and operation of a water supply pipeline from the existing 2420 Zone Bermuda Reservoir (located in southern Las Vegas) to Jean, Primm, the Southern Nevada Correctional Center, and the proposed Ivanpah Valley Airport. The pipeline also would provide water to other users along the I-15 corridor and within the valley in general. The project includes more than 30 miles of large-diameter pipeline, 3 pump stations, 2 reservoirs, and associated facilities such as access roads, electric power distribution lines, and telemetry control structures (BLM, 2002). Although direct impacts associated with the pipeline are likely to be minimal, the availability of a reliable water source in Ivanpah Valley would likely result in increased development within the valley and secondary impacts as a result of such development.

5.6.7.2.4 Southern Nevada Supplemental Airport (Ivanpah Valley Airport)

The Clark County Department of Aviation (CCDOA) is proposing to construct a new supplemental commercial service airport in the Ivanpah Valley of southern Nevada (Ivanpah Valley Airport). The new airport would provide additional capacity to serve visitors to the metropolitan Las Vegas area and residents of Clark County, Nevada. Ivanpah Valley Airport is the planned relief airport for McCarran International Airport. Since there is only limited space left for expansion at McCarran, a new airport is an alternative to increase capacity. Clark County, Nevada purchased 6,500 acres of land along I-15 in the Ivanpah Valley from the BLM about 30 miles southwest of McCarran International Airport. This location is between Jean and Primm, Nevada (Clark County Department of Aviation, 2006).

The Ivanpah Valley Airport project is planned on 9.4 square miles along I-15. The project site is bordered by I-15 on the west and the UPRR tracks on the east. Primm, Nevada, an existing commercial development including hotel casino and shopping plaza, is located approximately one mile south of the airport project. Jean, Nevada is located approximately 2 miles north of the project. The proposed airport site is located on part of the Roach Lake Playa (Clark County Department of Aviation, 2004).

Currently, the project is working to produce the lengthy environmental studies required for major projects, and therefore, potential impacts have not been identified with specificity at this time. All dates for construction and availability are fluid at this time. However, the official Clark County Department of Aviation statements point to starting construction in 2010 with an opening date of 2017 (Stutz, 2007).

5.6.7.2.5 Table Mountain Wind Energy Facility

Table Mountain Wind Company, LLC (TMWC) is proposing to develop a nominal 150- to 205-MW wind-powered electric generation facility and ancillary facilities located at the south end of the Spring Mountain Range between the communities of Goodsprings, Sandy Valley, Jean, and Primm, Nevada. TMWC has applied for a 25-year term ROW grant from BLM Las Vegas Field Office to construct, operate, and maintain a wind generating and ancillary facilities on approximately 325 acres of public land. The purpose of the proposed project is to provide wind-generated electricity from a site in southern Nevada to meet existing and future electricity needs and demonstrate the ability of wind energy to provide a reliable, economical, and environmentally acceptable energy resource in the region. The Final EIS found that implementation of the proposed project or alternatives would result in significant impacts on visual resources and potentially significant impacts on wildlife resources. Positive benefit to air quality and socioeconomic resources would result from the

development and operation of the wind generating facility. Potential significant impacts from construction and operation activities on the remaining resources are not anticipated with the implementation of mitigation measures (PBS&J, FEIS, July 2002).

The project location is about 13 miles north of the Ivanpah SEGS site. Project workforce requirements and proposed construction schedules are not available. Construction workers in Las Vegas would use I-15 to Jean, Nevada to access the site. On July 20, 2007, Nevada Representative Dean Heller wrote a letter urging his constituents to encourage BLM to look for another location for this project.

5.6.7.3 Potential Actions in the Vicinity of Ivanpah SEGS that Are Known But Are Not Reasonably Foreseeable At This Time

There is some information about several other projects within the Ivanpah basin; however at this time, these projects have either not proceeded or they have not proceeded in the normal course to the point that there is enough publicly available information to determine their potential impacts and have some comfort level that they will proceed. Accordingly, these potential projects are considered speculative and thus not reasonably foreseeable. Nevertheless, in the interest of full disclosure, they are briefly described below.

- Amtrak Rail Line
- AT&T Fiber Optic Line
- California-Nevada Interstate Maglev
- OptiSolar
- Solar Investments I, LLC
- PPM Energy 63-MW Wind Project
- Reliant Energy 500-kV Power Line

5.6.7.3.1 Amtrak Rail Line

Since the 1997 termination of the Amtrak *Desert Wind*, Las Vegas has been without any passenger train service. Plans to resume service using a Talgo train have failed to gain support due to the high cost of upgrades to the existing track, much of it being only a single track as of 2006. Amtrak has proposed upgrading the existing rail line to allow high-speed Talgo trains. The implementation of this option appears to be delayed since the UPRR, which transports freight trains running near Primm, Nevada, claims to lack capacity on the existing rail line.

5.6.7.3.2 AT&T Fiber-optic Line

Preliminary information from AT&T indicates that an existing fiber-optic telecommunications line would be relocated from the east side of I-15 to the west side of the highway. Although the specific alignment has not been determined, the relocation would accommodate development of the proposed Ivanpah Valley Airport. Construction of the relocated fiber-optic line is likely to result in temporary impacts to vegetation and desert tortoise and wildlife habitat along the west side of I-15. In order to be in compliance with all applicable LORS, the CDCA Plan, the NEMO Coordinated Management Plan, and the USFWS Desert Tortoise Recovery Plan, mitigation measures would be implemented to reduce any potential impacts from this project to a level that is less-than-significant.

5.6.7.3.3 California-Nevada Interstate Maglev

The California-Nevada Interstate Maglev project is proposing the construction of a 269-mile Maglev train line from Las Vegas, Nevada to Anaheim, California. Growth in this area, including the proposed supplemental airport in the Ivanpah Valley and traffic conditions on I-15, have resulted in identifying the need for an alternative mode of transportation between Southern California and Las Vegas. The California Nevada Super Speed Train Commission has sponsored studies to examine the feasibility and the environmental impacts of this project. The first 40-mile segment of the project received \$45 million in 2005 for the planning phase. This segment would run from Las Vegas to Primm, Nevada, with proposed service to the new Ivanpah Valley Airport, near Primm. The trains are proposed to operate at a level of approximately 376 trains per week, 20 hours per day (Illia, 2005). It is assumed that the corridor would parallel I-15, which is less than 1 mile south of Ivanpah SEGS. As a high-speed service, it would be able to compete with airlines for passengers, especially from the outlying areas of Southern California.

The Department of Transportation issued a notice in the Federal Register to advise the public that the Federal Railroad Administration would prepare a programmatic EIS for the California-Nevada Interstate Maglev Project in cooperation with the Nevada Department of Transportation (USDOT, 2004). According to the DOT's Notice of Preparation, possible environmental impacts of the project along the 269-mile project corridor would include displacement of commercial and residential properties, disproportionate impacts to minority and low-income populations, community and neighborhood disruption, increased noise and electromagnetic interference along rail corridors including startle effects on highway vehicles, traffic impacts associated with stations, effects to historic properties or archaeological sites, impacts to parks and recreational resources, visual quality effects, impacts to water resources, wetlands, and sensitive biological species and habitat, land use compatibility impacts, energy use, and impacts to agricultural lands (USDOT, 2004). According to the BLM Las Vegas Field Office, there is currently no staff assigned to the Maglev project (Marcel, 2007, personal communication).

5.6.7.3.4 OptiSolar

OptiSolar, a Hayward solar manufacturer of thin film amorphous silicon solar panels (PV) and developer of PV projects for wholesale applications, formerly Gen3 Solar, has submitted a ROW application to BLM for land immediately east of the Ivanpah SEGS project area (Torre, 2007, personal communication). According to the BLM Needles Field Office, a POD has been submitted for the proposed 300 MW OptiSolar project. The POD is currently being reviewed by BLM (O'Connell, 2007, personal communication). The BLM's review of the potential impacts associated with the POD is not yet available for public review, and there has been no Notice of Intent issued yet for this project. No construction schedule is available.

5.6.7.3.5 Solar Investments I, LLC

In January 2007, Solar Investments I, LLC (a wholly owned subsidiary of Goldman, Sachs & Co.) filed a SF299 application to apply for a 30-year BLM ROW for the development of a solar trough generating facility up to 1,000 MW in size. The proposed site is about 13 miles northeast of Ivanpah SEGS, immediately south of Jean Dry Lake. Access to the site would be from I-15 near the community of Jean, Nevada. Solar Investments I is seeking to

reserve about 31 square miles of BLM land within which to site its facility and plans to commence construction by January 2010.

Solar Investments claims to be in the process of preparing a screening study to address economic, technical and environmental parameters. However, there has been no Notice of Intent to conduct an environmental review of the proposed project noticed in the Federal Register, and the timing and impacts of this project are unknown. According to the SF299, the site would not be located in a Desert Wildlife Management Area, or BLM Area of Critical Environmental Concern.

The solar trough technology uses a heat transfer fluid that is circulated through the solar field where it is heated to 735°F then, through the use of a heat exchanger, it generates superheated steam that powers a standard steam turbine. The plant proposes to use wet cooling with makeup water being supplied from the Colorado River. To generate 500 MW, Solar Investments I estimates it would require 4500 ac-ft/yr of water. Therefore, a 1,000-MW plant, as proposed, would require 9,000 ac-ft/yr of water. PPM Energy Wind Project Near Mountain Pass

PPM Energy, or a subsidiary, has filed a SF299 ROW grant application with the BLM for a project site near Mountain Pass, approximately 8 miles west from Ivanpah SEGS. Although the CAISO does not confirm project ownership, the project holding queue position #11 appears to be this project, which is defined as a 63-MW wind project. Although the project was proposed to be on-line in 2004, it has not yet initiated the BLM environmental process.

5.6.7.3.6 Reliant Energy 50-kV Power Line

According to the BLM, Las Vegas Field Office (Marcell, personal communication, 8/2/07 and 8/6/07), Reliant Energy has submitted a SF299 ROW grant application for a 500-kV power line in Clark County, Nevada. The project appears to be located near Primm, Nevada. The project is currently working with the BLM, but a POD has not been issued for this project and no additional details were available.

5.6.7.4 Summary of Cumulative Effects

As discussed above, the proposed Ivanpah SEGS is expected to be consistent with the applicable plans and policies. Therefore, the proposed Ivanpah SEGS would not result in significant land use impacts. In addition, no farmland is present in the study area and existing agricultural uses are minimal, so implementation of the proposed project would not significantly affect farmland. Therefore, the proposed project would not result in a cumulative farmland impact. The project site does not lie within critical habitat for the desert tortoise as identified in the Desert Tortoise Recovery Plan, and therefore, would not result in a cumulative conflict with this Plan. Further it is expected that the reasonably foreseeable projects considered as part of this analysis would also not contribute to a significant impact on land use in the project vicinity because each of these projects will receive development approvals that could not be issued without a determination that these projects are consistent with applicable plans and policies, including development, farmland, and habitat conservation policies. In conclusion, the Ivanpah SEGS, when combined with these other projects will not create a significant cumulative land use impact.

5.6.8 Mitigation Measures

Because no land use-related impacts have been identified, no mitigation is required.

5.6.9 Involved Agencies and Agency Contacts

TABLE 5.6-6
Agency Contacts for Ivanpah SEGS Land Use

Issue	Agency	Contact
Recent or proposed Development Code and General Plan Amendments, recent discretionary reviews, mining claims or leases and conformance with the CDCA and NEMO Plans	Bureau of Land Management, Needles Field Office	Kathleen O'Connell, Realty Specialist Ph: (760) 326.7006 Fx: (760) 326.7099 email: Kathleen_O'Connell@blm.gov
Recent or proposed Development Code and General Plan Amendments and recent discretionary reviews	San Bernardino County	Julie Rynerson Rock Department of Land Use Services San Bernardino County Ph: (909) 387-4141 email: jrynerson@lusd.sbcounty.gov

5.6.10 Permit Requirements and Permit Schedule

TABLE 5.6-7
Permits and Permit Schedule for Ivanpah SEGS Land Use

Permit	Agency Contact	Schedule
Right-of-way	BLM	Kathleen O'Connell, Realty Specialist Ph: (760) 326.7006 Fx: (760) 326.7099 email: Kathleen_O'Connell@blm.gov
Encroachment (utilities)	BLM	
Right-of-Way (transmission lines)	BLM/SCE	
Right-of-Way (access roads)	BLM	

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