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5.15 Visual Resources

5.15.1 Introduction

Aesthetics, as addressed in the California Environmental Quality Act (CEQA), refers to visual considerations in the physical environment (CERES, 2009). Aesthetics analysis, or visual resource analysis, is a systematic process to logically assess visible changes in the physical environment and the anticipated responses of viewers to those changes. The Visual Resource subsection of this Application for Certification (AFC) was prepared following the California Energy Commission (CEC) guidelines for preparing visual impact assessments.

- Section 5.15.2 lists the laws, ordinances, regulations, and standards (LORS) that pertain to visual resource management, and discusses the Project's conformity with the identified LORS.
- Section 5.15.3 provides a brief description of the visual characteristics of the proposed Project and a list of the dimensions of the major Project structures.
- Section 5.15.4 documents existing landscape character of the Mojave Solar Project area and existing views of the Project area as seen from various on-the-ground vantage points.
- Section 5.15.5 describes and evaluates the landscape changes that would be associated with the construction and operation of the Mojave Solar Project (Mojave Project or the Project), as seen from various on-the-ground vantage points.
- Section 5.15.6 discusses the potential cumulative effects of this and other Projects on the visual resources in the area.
- Section 5.15.7 summarizes the mitigation measures proposed for visual resources and analyzes their effectiveness in reducing the Project's potential impacts on visual resources to a level of less than significant.
- Section 5.15.8 lists the agencies having jurisdiction over the area that includes the Project site and agency contact information.
- Section 5.15.9 discusses permits and approvals of direct relevance to visual resources.
- Section 5.15.10 lists the references used in preparation of this subsection.

All figures referenced in the text are located at the end of this subsection.

5.15.2 Laws, Ordinances, Regulations, and Standards

5.15.2.1 Introduction

This section describes the LORS relevant to visual resources. The Project site is located within unincorporated San Bernardino County on private land; there is no state or federal land involved in the Mojave Project. The Project would connect to existing electric transmission lines that are also located within San Bernardino County. Because the Project is located within San Bernardino County, the County's General Plan and zoning information are provided in this section for informational purposes, but the County does

not have discretionary authority regarding the Project. Visual resources are addressed in the San Bernardino County General Plan (2007), the San Bernardino County Development Code (2007), and the San Bernardino County Ordinance No. 3900 related to glare, outdoor lighting, and night sky protection.

The LORS that are pertinent to the Project are listed in Table 5.15-1 and the specific provisions of each plan or ordinance that have potential relevance to the Project are discussed below.

Table 5.15-1. Summary of Applicable Visual Resource LORS for Mojave Solar Project

LORS Authority	Requirements	Administering Agency	AFC Section Explaining Conformance
Federal:			
None: No federal lands involved in Project	None	N.A.	N.A.
State:			
California Environmental Quality Act, (CEQA); California Public Resources Code, Section 2100 et seq	CEQA Guidelines require and provide criteria for assessment of visual resource impacts	California Energy Commission,	Section 5.15.2.3.1
California Scenic Highway Program, (Streets and Highways Code Sec. 260 et seq.)	Enacted in 1963 with the goal of preserving and protecting the State's scenic highway corridors from change that would diminish their aesthetic value.	Dennis Cadd Statewide Coordinator Landscape Architecture Program California Department of Transportation 1120 N Street, MS 28, Sacramento, CA 95814 (916) 654-5370	Section 5.15.2.3.3
Local:			
County of San Bernardino, General Plan	The purposes of the General Plan are to: Identify the community's	Andy McCune San Bernardino County, Land Use Services	Section 5.15.2.4.1

LORS Authority	Requirements	Administering Agency	AFC Section Explaining Conformance
	land use, transportation, environmental, economic, and social goals and policies as they relate to land use and development; Form the basis for local government decision-making, including decisions on proposed development; Provide residents with opportunities to participate in the planning and decision-making processes of their community; Inform residents, developers, decision makers, and other cities and counties of the ground rules that guide development within the community.	Department, Building and Safety Division 385 N. Arrowhead Avenue, 1st Floor San Bernardino, CA 92415-0181 (909) 387-8311	
San Bernardino County Development Code	The purpose of the Code is to implement the San Bernardino County 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.	Same as above	Section 5.15.2.4.2

LORS Authority	Requirements	Administering Agency	AFC Section Explaining Conformance
San Bernardino County Ordinance 3900	The Ordinance is intended to encourage effective non-detrimental lighting; to maintain night-time safety, utility, security, and productivity; and to encourage lighting practices and systems that will minimize light pollution, glare, and light trespass, conserve energy and resources, and curtail the degradation of the night-time visual environment of several areas in the county including the Desert Area.	Same as above	Section 5.15.2.4.3

5.15.2.2 Federal LORS

There are no federal lands involved with the Mojave Solar Project, and therefore, no federal regulations would apply.

5.15.2.3 State LORS

State LORS that apply to the Mojave Solar Project are discussed here.

5.15.2.3.1 California Environmental Quality Act (CEQA), California Public Resources Code, Section 2100 et seq.

CEQA Guidelines define a “significant effect” on the environment to mean a “substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance” (California Code of Regulations [CCR], Title 14, § 15382).

CEQA includes the aesthetic environment as one of the resource areas to be considered in environmental assessment documents. Appendix G of the CEQA guidelines includes several criteria for determining whether a Project may have a significant effect on the environment because of aesthetic impacts. As the CEC licensing process is a CEQA-equivalent process, the CEC is the administering agency. Section 5.15.5.2 of this report discusses Aesthetic (Visual Resources) Thresholds of Significance in detail.

5.15.2.3.2 California State Parks

The Mojave Solar Project is not within the viewshed of any state park. Therefore, there are no LORS regarding state parks that would apply to the proposed Project. The three state parks closest to the Project are Red Rock Canyon, Providence Mountains, and Indio Hills Palms. Red Rock Canyon State Park is west of the proposed Project, approximately 25 miles northeast of Mojave on SR 14, near Cantil. Providence Mountains State Recreation Area is located in the eastern Mojave Desert off of Interstate 40, 116 miles east of Barstow. Indio Hills Palms Park Property trailhead and parking area is located approximately four miles north of Indio.

5.15.2.3.3 California Scenic Highway Program

The California Legislature initiated the California Scenic Highway Program (Streets and Highways Code Sec. 260 et seq.) in 1963, with the goal of preserving and protecting the State's scenic highway corridors from change that would diminish their aesthetic value. The State Scenic Highway System consists of officially designated (OD) and eligible (E) routes (California Scenic Highway Mapping System, 2009). A highway may be identified as eligible for listing as a State scenic highway if it offers travelers scenic views of the natural landscape, largely uninterrupted by incongruent development. Eligible routes advance to officially designated status when the local jurisdiction adopts ordinances to establish a scenic corridor protection program and receives approval from the California Department of Transportation (Caltrans). Scenic corridor protection programs are required to provide for:

- Regulation of land use and development within the scenic corridor;
- Detailed land and site planning;
- Careful attention to and control of earthmoving and landscaping activity;
- Careful attention to design and appearance of structures and equipment; and
- Control of outdoor advertising, including a ban on billboards.

State Route 58 (SR 58) is an east-west two lane paved highway that connects the City of Barstow on the east with the communities of Mojave, Tehachapi, and Bakersfield on the west. SR 58 in San Bernardino County is an Eligible State Scenic Highway – Not Officially Designated. The Mojave Project is situated approximately five miles to seven miles north of the intersection of SR 58 and Harper Lake Road. The existing Solar Electric Generating Systems (SEGS) VIII and IX are located just northwest of the proposed Project site, and are approximately seven to eight miles north of the intersection of SR 58 and Harper Dry Lake Road. Neither the proposed Project site nor the existing SEGS VIII and IX facilities are visible from anywhere along SR 58, because of topographic screening.

5.15.2.4 Local LORS

Local LORS applicable to the Mojave Solar Project include:

5.15.2.4.1 San Bernardino County General Plan

The Mojave Solar Project would be located within the County's Desert Region (San Bernardino County, 2009). Policies and goals that are applicable to visual resources were identified in the Land Use Element, Circulation Element, Conservation Element, and the

Open Space Element of the General Plan. Because the Project is situated on private land within the County, this LORS section would be applicable to the proposed Project if the County had jurisdiction. The CEC has jurisdiction regarding the Mojave Solar Project, but the County does not. The provisions of the General Plan that are applicable to visual resources are summarized in Table 5.15-2. The provisions are also evaluated for conformity as if the County had jurisdiction over Project development.

According to the San Bernardino General Plan, Circulation and Infrastructure Element,

A highway's designation as "scenic" depends upon the amount of natural landscape can be seen by individuals traveling along its route and the extent to which development intrudes upon this view. The boundaries of a scenic corridor generally encompass the land adjacent to and visible from the highway, using a motorist's line of sight. A reasonable boundary is selected when the view extends to the distant horizon. No restrictions are placed on officially designated scenic highways in terms of improvements or further development, but all proposed Projects are reviewed by Caltrans and the appropriate agencies to ensure the protection of the scenic corridors to the maximum extent feasible.

Because the issue of scenic routes or corridors touches on a number of the elements of the General Plan, the goals and policies for this issue could be placed in any one of these elements. The County has determined, however, that the primary goal of scenic routes is to conserve the scenic qualities of these route and has therefore included the goals and policies for scenic routes into the Conservation Element.

Table 5.15-2. Conformity of Mojave Solar Project with the San Bernardino County General Plan

Provision	Conformity
Land Use Element	
Desert Region Goal D/LU 2: Establish locational criteria for future development within the region to ensure compatibility between uses and with the character and vision that is desired for the region.	Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to establish criteria for locating future development in the region.
Desert Region Goal D/LU 3: Ensure that commercial and industrial development within the region is compatible with the rural desert character and meets the needs of local residents.	Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to ensure that commercial and industrial development is compatible with the area's character while meeting the needs of the public. Additionally, the Mojave Solar Project is compatible with the existing character of the adjacent SEGS VIII and IX facilities that were constructed in the 1990s.

Provision	Conformity
<p>Desert Region Policy D/LU 3.1: The County shall develop standards for commercial development within the region to best reflect the character of the region. Standards may include, but not be limited to signage, screening, pedestrian access, parking, and buffering between adjacent land uses.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to develop standards for commercial development.</p>
<p>Circulation Element</p>	
<p>Desert Region Goal D/CI 1: Ensure a safe and effective transportation system that provides adequate traffic movement while preserving the rural desert character of the region.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to ensure a safe and effective transportation system while preserving the desert's character. Local roads internal to the Project would be improved. To minimize impacts due to traffic, the Project plans to use a busing service from a location in Barstow.</p>
<p>Desert Region Policy D/CI 1.2: Design roads to follow natural contours, avoid grid pattern streets, minimize cuts and fills and disturbance of natural resources and trees wherever possible.</p>	<p>Yes. Access to the proposed Project would be provided by the existing Harper Lake Road, which would be improved. Existing roads in the area follow a grid pattern on flat terrain, which would follow the County's policy to the extent feasible.</p>
<p>GOAL D/CI 2: Ensure that infrastructure improvements are compatible with the natural environment of the region.</p>	<p>Yes. Infrastructure of the proposed Project would be compatible with the natural environment of the region because the proposed solar fields and power islands would be situated on flat, planar lands in a desert environment with high solar insolation.</p>
<p>D/CI 2.1: Retain the natural channel bottom for all storm water drainage facilities and flood control channels when such facilities are required for a specific development. This protects wildlife corridors and prevents loss of critical habitat in the region.</p>	<p>Yes. New drainage channels would have natural bottoms and sidewalls would be armored with a gabion mattress. Wildlife movement into the Project area would be restricted by perimeter chain link fencing with tortoise barriers.</p>

Provision	Conformity
<p>Desert Region Goal D/CI 3: Encourage property maintenance to enhance regional aesthetics with the promotion of water and soil conservation, recycling, and proper solid waste disposal.</p>	<p>Yes. Water recycling is proposed as part of the Project, soil erosion would be minimized during Project construction, and solid waste disposal would be conducted in accordance with applicable local, state, and federal regulations.</p>
<p>Conservation Element</p>	
<p>Countywide Goal CO 1: The County will maintain to the greatest extent possible natural resources that contribute to the quality of life within the County.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to maintain the County's natural resources. The proposed Project site is substantially disturbed and has no designation for any resources with the exception of rural resources.</p>
<p>Countywide Policy CO 1.2: The preservation of some natural resources requires the establishment of a buffer area between the resource and developed areas. The County will continue the review of the Land Use Designations for unincorporated areas within one mile of any state or federally designated scenic area, national forest, national monument, or similar area, to ensure that sufficiently low development densities and building controls are applied to protect the visual and natural qualities of these areas.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to review land use designations in unincorporated areas to protect the visual and natural qualities of the areas near state or federally designated scenic areas, national forests, national monuments, or similar areas. The proposed Project site is zoned RL which allows electric power generation and it avoids areas that are zoned RC, which are areas typically near undeveloped federal lands.</p>
<p>Desert Region Goal D/CO 1: Preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water, and scenic vistas.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to preserve the Desert Region's scenic vistas. The Project site is mostly fallow farmland with one currently irrigated crop circle and the site is not located within a designated scenic area.</p>

Provision	Conformity
<p>Desert Region Policy D/CO 1.2: Require future land development practices to be compatible with the existing topography and scenic vistas, and protect the natural vegetation.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to require future development to be compatible with the existing topography, scenic vistas, and natural vegetation. The Project site is mostly fallow farmland with one currently irrigated crop circle and the site does not currently support native desert vegetation.</p>
<p>Desert Region Policy D/CO 1.3: Require retention of existing native vegetation for new development Projects, particularly Joshua trees, Mojave yuccas and creosote rings, and other species protected by the Development Code and other regulations.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to require future development to retain existing native vegetation for new development Projects. The Mojave Solar Project site has no Joshua trees, Mojave yuccas and creosote rings, and other species protected by the Development Code and other regulations.</p>
<p>Desert Region Goal D/CO 2: Encourage utilization of renewable energy resources.</p>	<p>Yes. The Project is a commercial solar Project.</p>
<p>Desert Region Goal D/CO 3: Preserve the dark night sky as a natural resource in the Desert Region communities.</p>	<p>Yes. The proposed Project would not affect the night sky in Desert Region communities in California. Project lights that would be turned on at night include:</p> <p>(1) A minimal number of lights would be installed on free-standing poles around the site. These lights would be on for nighttime maintenance activities. Lights would be shielded, directional, and lowest intensity practicable for intended purposes.</p> <p>(2) Vehicle-mounted lights for night maintenance activities (mainly mirror washing).</p>
<p>Desert Region Policy D/CO 3.1: Protect the Night Sky by providing information about and enforcing existing ordinances:</p> <p>b. Review exterior lighting as part of the design review process.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County's ability to provide public information regarding the Night Sky ordinance the County's ability to enforce the ordinance.</p>

Provision	Conformity
<p>Desert Region Policy D/CO 3.2: All outdoor lighting, including street lighting, shall be provided in accordance with the Night Sky Protection Ordinance and shall only be provided as necessary to meet safety standards.</p>	<p>Yes. The proposed Project is designed with lighting designed to comply with the Night Sky Protection Ordinance.</p>
<p>Open Space Element</p>	
<p>Countywide Goal OS 4: The County will preserve and protect cultural resources throughout the County, including parks, areas of regional significance, and scenic, cultural, and historic sites that contribute to a distinctive visual experience for visitors and quality of life for County residents.</p>	<p>Yes. Implementation of the proposed Project would have no effect on San Bernardino County’s parks, areas of regional significance, scenic areas, or visually important sites that contribute to a distinctive visual experience for visitors and quality of life for County residents.</p>
<p>Countywide Goal OS 5. The County will maintain and enhance the visual character of scenic routes in the County.</p>	<p>Yes. The proposed Project would not be visible from SR 58, and eligible State Scenic Highway, because of topographic screening.</p>
<p>Countywide Policy OS 5.3 The County desires to retain the scenic character of visually important roadways throughout the County. A “scenic route” is a roadway that has scenic vistas and other scenic and aesthetic qualities that over time have been found to add beauty to the County. Therefore, the County designates the following routes as scenic highways and applies all applicable policies to development on these routes.</p>	<p>Yes. The proposed Project would not be visible from any County designated scenic route.</p>

Provision	Conformity
<p>Countywide Policy OS 7.5: Require that natural landform and ridgelines be preserved by using the following measures:</p> <p>Keep cuts and fills to an absolute minimum during the development of the area.</p> <p>Require the grading contours that do occur to blend with the natural contours onsite or to look like contours that would naturally occur.</p> <p>Encourage the use of custom foundations in order to minimize disruption of the natural landform.</p> <p>Require that units located in the hillsides be so situated that roof lines will blend with and not detract from the natural ridge outline.</p>	<p>Yes. The proposed Project site was selected because of its flat terrain. The Project will not affect ridgelines. Proposed rooflines are shallow gable and shallow shed roofs, in keeping with the flat desert terrain of the proposed Project site.</p>
<p>Desert Region Goal D/OS 1: Preserve open space lands to ensure that the rural desert character of the region is maintained.</p>	<p>Yes. The proposed Project is located immediately adjacent to two existing transmission lines: the Southern California Edison (SCE) owned Kramer-Cool Water 230-kV and the Los Angeles Department of Water and Power (LADWP) owned 500-kV Mead-Adelanto transmission line, both of which are located adjacent to the southern border of the Mojave Solar Project. Because the existing landscape is crossed by existing overhead high-voltage electric transmission lines; therefore, the proposed Project would be compatible with other existing structures in the Project vicinity.</p>

5.15.2.4.2 San Bernardino County Development Code

The County Development Code implements the San Bernardino General Plan by classifying and regulating the uses of land 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 (San Bernardino County. 2009c). More specifically, the purposes of this Development Code are to:

- [a] 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.
- [b] Conserve and protect the County's important agriculture, cultural, natural, open space and scenic resources.
- [c] 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.
- [d] 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.
- [e] Ensure compatibility between different types of development and land use.

The provisions of the San Bernardino County Development Code that are applicable to visual resources are summarized in Table 5.15-3. The provisions are also evaluated for conformity as if the County had jurisdiction over Project development.

Table 5.15-3. Conformity of Mojave Solar Project with the San Bernardino County Development Code

Provision	Conformity
<p>83.02.060 Screening and Buffering</p> <p>This Section provides standards for the screening and buffering of adjoining land uses, equipment, and outdoor storage areas, and surface parking areas. Multi-family and nonresidential land uses shall comply with the requirements of this Section.</p> <p>(a) Screening between different land uses.</p> <p>(1) An opaque screen consisting of plant material and a solid masonry wall, a minimum of 6 feet in height, shall be installed along parcel boundaries whenever a commercial or industrial development adjoins a residential land use zoning district.</p> <p>(2) The maximum height of walls shall comply with the provisions of Chapter 83.06 (Fences, Hedges, and Walls)</p> <p>(3) The walls shall be architecturally treated or landscaped on both sides to avoid the appearance of unfinished precision block, subject to the approval of the Director.</p>	<p>No. The Applicant does not propose to install plant material or solid masonry walls as architectural screening for the proposed Project.</p>

Provision	Conformity
<p>(4) Minimum sizes of plant materials shall conform to the requirements in Subsection 83.10.070 (d) (Landscape Standards Minimum sizes of plant materials).</p> <p>(b) Mechanical equipment, loading docks, and refuse areas.</p> <p>(1) Roof or ground mounted mechanical equipment (e.g., air conditioning, heating, ventilation ducts and exhaust, etc.), loading docks, refuse storage areas, and utility services shall be screened from public view from adjoining public street and rights-of-way and surrounding area(s) zoned for residential or open space uses.</p> <p>(2) The method of screening shall be architecturally compatible with other on-site development in terms of colors, materials, and architectural style.</p> <p>(3) Landscaping shall be installed adjacent to the walls at the discretion of the Director.</p> <p>(c) Outdoor storage areas.</p> <p>(1) The use of outdoor areas for storage purposes shall be subject to the following standards:</p> <p>(A) Outside storage areas shall be screened with a solid sight-obscuring wall not less than six feet nor more than eight feet in height, of a type and design approved by the Director. The wall shall include sight-obscuring gates. The wall and gate(s) shall be continuously maintained in good repair; and</p> <p>(B) Stored materials shall be kept below the level of the fence or other screening mechanism.</p> <p>(C) Site operations in conjunction with outdoor storage, including the loading and unloading of materials and equipment, shall be conducted entirely within a walled area.</p> <p>(D) Exterior storage shall comply with Title 3 (Health and Sanitation and Animal</p>	

Provision	Conformity
<p>Regulations) of the County Code.</p> <p>(2) Incidental outdoor storage shall be allowed, subject to the above standards. Outdoor storage categorized as a primary land use shall be subject to the applicable permitting requirements identified in Division 2 (Land Use Zoning Districts and Allowed Land Uses) and the above standards.</p>	
<p>83.06 (Fences, Hedges, and Walls)</p> <p>83.06.030 General Height Limitations</p> <p>Fences, hedges, and walls may be erected/maintained within required setback areas to the heights identified below:</p> <p>Commercial land use zoning districts – front & side street = 4 ft; Interior side & rear = 10 ft</p> <p>Industrial land use zoning districts – front & side street = 6 ft; Interior side & rear = 10 ft</p> <p>All other land use zoning districts – front & side street = 4 ft; Interior side & rear = 6 ft</p>	<p>No. The Applicant proposes to fence the perimeter of each of the Project areas for safety and security reasons. The Applicant does not propose to plant hedges or construct fences or walls as part of the Project.</p>
<p>83.06.040 Measurement of Fence or Wall Height</p> <p>(a) The height of a fence or wall shall be measured from the finished grade at the location in which the fence or wall is to be located.</p> <p>(b) Where there is a difference in the ground level between two adjacent parcels, the height of a fence or wall constructed along the property line shall be determined by using the finish grade of the lowest contiguous parcel.</p>	<p>No. The Applicant proposes to fence the perimeter of each of the Project areas for safety and security reasons. The Applicant does not propose to plant hedges or construct fences or walls as part of the Project.</p>
<p>83.06.050 Walls Required Between Different Land Use Zoning Districts</p> <p>Walls shall be provided and maintained between different land use zoning districts in the following manner:</p>	<p>No. The proposed Project does not have walls separating land uses. The Applicant proposes to fence the perimeter of the Project areas for safety and security reasons. The Applicant does not propose to construct walls as part of the Project.</p>

Provision	Conformity
<p>(a) Nonresidential or multi-family. Where a nonresidential land use district abuts property in any residential land use zoning district or a Multiple Residential Land Use Zoning District abuts property in a Single Residential Land Use Zoning District, a solid masonry wall shall be constructed on the land use zoning district boundary line consistent with the height limitations contained in Table 83-6. If a public right-of-way separates a nonresidential district from any residential district or multi-family residential district from a Single Residential Land Use Zoning District, this wall requirement may not apply. Also, this requirement shall not apply to the Rural Commercial (CR) Land Use Zoning District in the Desert Region.</p> <p>(b) Industrial. Where an industrial land use zoning district abuts property in a nonindustrial land use zoning district, a solid masonry wall, a minimum of 6 feet in height, shall be constructed on the land use zoning district boundary line.</p> <p>(c) Design and construction. Walls shall be of solid masonry construction and shall be of a decorative design when in view of public rights-of-way subject to the approval of the Director.</p> <p>(d) Modification of requirements. The Director may waive or modify requirements for walls between different land use zoning districts where a solid masonry wall already exists on the abutting property if the following findings can be made in a positive manner:</p> <p>(1) The existing wall meets, or would be modified to conform to, the intent of this Chapter.</p> <p>(2) Suitable landscaping would be installed adjacent to the existing wall to supplement and enhance the desired physical separation.</p>	

Provision	Conformity
<p>(3) The existing wall would be protected to prevent vehicle damage, if necessary.</p> <p>(4) Concurrence of the abutting property owner(s) would be obtained, to modify the existing wall to meet the requirements of this Chapter.</p>	
<p>Chapter 83.07 Glare and Outdoor Lighting 83.07.040 Glare and Outdoor Lighting - Mountain and Desert Regions</p> <p>This Section provides standards for outdoor lighting in the Mountain and Desert Regions, unless exempt in compliance with Subsection 83.07.040(e) (Exempt lighting and fixtures), below.</p> <p>(a) Residential, commercial and industrial land use zoning districts. The following standards shall apply to all structures and freestanding outdoor light fixtures in all land use zoning districts.</p> <p>(2) Shielding requirements. New permitted lighting for new construction, unless exempt in compliance with Subsection 83.07.040(e) (Exempt lighting and fixtures), below, shall be shielded in compliance with the requirements outlined in Table 83-7 (Shielding Requirements for Outdoor Lighting in the Mountain Region and Desert Region), in order to preclude light pollution or light trespass on:</p> <p>(A) Adjacent property;</p> <p>(B) Other property within the line of sight (direct or reflected) of the light source; or</p> <p>(C) Members of the public who may be traveling on adjacent roadways or rights-of-way.</p> <p>(b) Determination of light trespass. Light trespass shall be determined in compliance with Subsection 83.07.030(a), above.</p> <p>(d) Additional standards for off-site signs (billboards) and on-site signs. Lighting</p>	<p>Yes. The Applicant plans to minimize trespass light by shielding light fixtures, and plans to eliminate glare from the Project by controlling the orientation of the mirrors.</p>

Provision	Conformity
<p>fixtures used to illuminate a new off-site sign and exterior illuminated on-site signs shall be mounted on the top of the sign structure and shall comply with the shielding requirements in Table 83-7 (Shielding Requirements for Outdoor Lighting in the Mountain Region and Desert Region), above.</p>	
<p>Chapter 83.10 Landscaping Standards 83.10.020 Applicability</p> <p>(a) New uses, structures, and subdivisions. The following land use Projects shall include plans for landscaping, consisting of trees, shrubs, flowers, ground covers, hardscape materials, fencing, walls, or a combination thereof, in the locations and amounts specified in this Chapter. The landscaping shall be installed before issuance of the final Certificate of Occupancy or final Building Permit, except for extensions granted by the Director in compliance with Subsection 83.10.040 (Waiver or Modification of Landscaping Requirements).</p> <p>1. Single-family residential subdivisions (containing 5 or more parcels), multi-family residential Projects, and nonresidential Projects, except as may be exempted by Section 83.10.030 (Exemptions from Landscaping Requirements), below.</p> <p>2. Building Permit applications for sites or developments that are within the service area of a public or private water purveyor that has adopted a water conservation policy.</p>	<p>No. The Applicant does not propose to plant landscaping throughout the Project site as part of the Project. The Applicant proposes to install minimal amounts of native xeriscape landscaping outside the entrances to the control room and administrative building.</p>
<p>83.10.050 Landscape Plans</p> <p>(a) Landscape plans required. Landscape plans shall be submitted to the Department for Projects specified in Section 83.10.020 (Applicability), above.</p> <p>(b) Content. Landscape plans shall contain information as specified in the instructions</p>	<p>No. The Applicant does not propose to provide a Landscape Plan for the proposed Project. The Applicant proposes to install minimal amounts of native xeriscape landscaping outside the entrances to the control room and administrative building.</p>

Provision	Conformity
<p>for preparing landscape plans provided by the Department.</p> <p>(c) Review and approval. After initial application, the Director shall review each landscape plan to verify its compliance with the provisions of this Chapter.</p> <p>(d) Statement of surety. When required by the Director, a statement of surety in the form of cash, performance bond, letter of credit, or certificate of deposit in an amount equal to 120 percent of the total value of all plant materials, irrigation, installation, and maintenance shall be posted with the County for a two-year period. The Director may require statements of surety for phased development Projects, a legitimate delay in landscape installation due to seasonal requirements (including adverse weather conditions) and similar circumstances where it may not be advisable or desirable to install all of a Project’s landscaping before occupancy of a site.</p>	
<p>83.10.060 Landscape Area Requirements</p> <p>(a) General requirements.</p> <p>(1) Setbacks. Setback and open space areas required by this Development Code shall be landscaped, except where a required setback is occupied by a sidewalk or driveway or where a required setback is screened from public view.</p> <p>(2) Unused areas. Areas of a Project site not intended for a specific use shall be landscaped, unless exempt in compliance with Section 83.10.030 (Exemptions from Landscaping Requirements).</p> <p>(3) Parking areas. Parking areas shall be landscaped in compliance with Chapter 83.11 (Off-Street Parking and Loading). Parking lot area shall not be counted as part of the total lot area when computing the minimum landscaped area in compliance with Table 83-12 nor shall the parking lot</p>	<p>No. The Applicant does not propose to plant landscaping throughout the Project site as part of the Project. The Applicant proposes to install minimal amounts of native xeriscape landscaping outside the entrances to the control room and administrative building.</p>

Provision	Conformity
<p>landscaping be counted as part of the minimum landscaping required.</p> <p>(4) Minimum area. Projects specified in Section 83.10.020 (Applicability) shall provide and maintain landscaped areas in compliance with Table 83-12 (Minimum Landscaped Area). No landscaped area having a width of less than five feet shall be considered in the minimum landscaping requirement.</p>	
<p>83.10.070 Landscape Standards</p> <p>Landscaping shall be designed, installed, and maintained as provided in this Section.</p> <p>(a) General design standards. The design of landscaped areas shall incorporate the following features:</p> <p>(1) Coordinated planting design. Planting design shall coordinate new plant materials and their growth requirements with the climate, soil, orientation, water courses, existing vegetation, fire prevention needs, related natural resources and man-made facilities. Landscaping shall be an integral part of the overall Project design and not simply located in excess space after parking areas and structures have been planned.</p> <p>(2) Minimal maintenance intensive landscaping. Maintenance intensive landscaping shall be minimal and shall be located near primary use areas.</p> <p>(3) Plants and materials. Landscaping may include lawn, ground cover, trees, shrubs, and other live plant materials. Landscaping may also include small amounts of accessory decorative outdoor landscape elements (e.g., ponds, fountains, sculpture, and paved or decorated surfaces), excluding driveways, parking, and storage areas.</p> <p>(6) Screening. Landscaping shall be required to screen storage areas, trash enclosures, and parking areas (except residential</p>	<p>No. The Applicant does not propose to plant landscaping throughout the Project site as part of the Project. The Applicant proposes to install minimal amounts of native xeriscape landscaping outside the entrances to the control room and administrative building.</p>

Provision	Conformity
<p>driveways). Above ground public utilities, such as, but not limited to electrical substations, water storage facilities and treatment plants, shall also be provided with perimeter landscape screening to the extent possible. Freeway and state highway rights-of-way shall also be provided with landscape screening to minimize their aesthetic impacts on adjacent uses. See Section 83.02.060 (Screening and Buffering).</p> <p>(7) Phased development. Graded areas proposed for development in a later phase shall be planted with annual grasses and shall be maintained in a weed-free condition until development occurs, if the later phase will not begin construction within six months of completion of the previous phase.</p> <p>(b) Plant materials. Plant materials shall be selected and installed to comply with the following requirements:</p> <p>(1) Considerations when selecting plant materials. Attention shall be given to appearance, height, spread, growth rate, moisture requirements, potential root damage, disease, pest susceptibility, climate adaptability, soil type, slope, function, and decreased maintenance.</p> <p>(2) Existing plant materials. Healthy, existing plant materials shall be used to meet landscape requirements wherever possible. Existing trees and plants shall be retained on site, unless otherwise approved in writing by the Director or the proper removal permit is granted in compliance with Division 6 (Plant Protection and Management).</p> <p>(3) Mix of plant materials. A mix of plant materials shall be provided in a variety of container sizes. The mix of plant materials shall include trees, shrubs and attractive erosion preventing ground cover. Use of one predominant species shall be avoided to</p>	

Provision	Conformity
<p>prevent spread of disease.</p> <p>(4) Location and spacing. Plant materials shall be located in areas appropriate to their known climatic and environmental requirements and spaced to allow mature growth. Trees and shrubs shall be planted so that at maturity they do not interfere with service lines and clear sight triangles.</p> <p>(5) Native and drought-tolerant plant materials. Native plant materials or locally adaptable drought-tolerant plantings capable of surviving the prevailing climatic and soil conditions with a minimum of supplemental water shall be emphasized.</p> <p>(6) Trees. Trees planted near public sidewalks or curbs shall be of a species and installed in a manner that prevents physical damage to sidewalks, curbs, gutters, and other public improvements. Trees shall be planted in areas of public view adjacent to structures, either individually or in grove effect, at the equivalent of one tree per 30 linear feet of building area. Additional trees shall be provided in compliance with Table 83-13 (Minimum Landscape Requirements).</p> <p>(7) Water requirements. At least seventy-five percent of the plants selected in nonturf areas shall be well suited to the climate of the region and require minimal water once established in the landscape. Plants that require similar water needs shall be grouped together and shall be irrigated separately.</p> <p>(8) Mulch. In order to reduce evaporation, competition for water, weed growth and damage to trees and shrubs, a minimum of three inches of mulch shall be added in non-turf areas to the soil surface after planting and within 18 inches of tree trunks. Plant types and landscaping applications that are intolerant to or inappropriate for mulch shall be excluded from this requirement.</p> <p>(9) Nonplant groundcover materials. Gravel, colored rock, bark and other similar</p>	

Provision	Conformity
<p>materials shall not be used as a sole groundcover material. These materials may be used, however, in place of paving materials in functional activity areas (e.g., patios, rear entry walks, etc.) or as nonplant groundcover for up to 20 percent of the total landscaped area.</p> <p>(c) Required quantities of plant material. The minimum quantity of trees, shrubs, and groundcover shall be as follows:</p> <p>(1) General landscaping. For general landscaping, the specifications listed in Table 83-13 (Minimum Quantities of Plant Materials) shall apply. Additional quantities may be required for boundary landscaping, interior parking landscaping [see Section 83.11.080(I)], screening, and slope stabilization.</p> <p>(2) Slope stabilization. In addition to general landscaping, slopes shall be protected from erosion by suitable ground cover that includes a combination of drought tolerant plants and hardscape components. Decorative rock, boulders or other suitable hardscape material may be utilized, but live plant materials shall comprise the dominant visual character. Trees and shrubs may be used as a part of slope landscaping where appropriate. Slope areas shall not be included in the overall required area of a site to be landscaped, and slope landscaping shall not be included in the overall landscape requirements.</p> <p>(e) Irrigation. Except where xeriscaping is specifically designed and intended not to be irrigated, landscaped areas shall be provided with a permanent automatic irrigation system(s) coordinated to meet the needs of various planting areas.</p>	
<p>83.10.080 Regional Landscaping Requirements</p> <p>(c) Desert Region. In the Desert Region the</p>	<p>No. The Applicant does not propose to plant landscaping throughout the Project site as part of the Project. The Applicant proposes to install minimal amounts of native</p>

Provision	Conformity
<p>following additional landscaping standards shall apply:</p> <p>(1) Existing desert native plants, or any part thereof except the fruit, shall not be removed without a removal permit issued in compliance with Division 6 (Plant Protection and Management). In addition, replacement of desert native plants shall be in compliance with Division 6 (Plant Protection and Management), except as provided for in this Subsection.</p> <p>(A) Recommended plant materials include, but are not limited to, native, succulent, drought- and infestation-tolerant deciduous and evergreen varieties. The use of turf shall be minimized. A list of recommended plant materials for the Desert Region is available at the Department to assist developers in preparing their landscaping plans.</p> <p>(B) Joshua trees shall be relocated on site, unless otherwise specifically allowed in writing by the Director.</p> <p>(2) A minimum of 15 feet of the front yard and street side yard setback areas of a parcel shall be landscaped using xeriscape type landscaping and hardscape materials in any combination. For sites where no disturbance of land within setbacks is proposed, landscaping shall not be required.</p> <p>(3) Unpaved parking lots shall not be required to be landscaped. Only those parking lots required to be paved shall be landscaped in compliance in Section 83.11.080 (Landscape Requirements for Parking Areas).</p>	<p>xeriscape landscaping outside the entrances to the control room and administrative building.</p>
<p>83.13 Sign Regulations 83.13.020 Applicability The sign standards provided in this Chapter shall apply to signs in all land use zoning districts in the County. Only signs</p>	<p>Yes. The Applicant would comply with the sign regulations and provisions of the Development Code. The Applicant may desire to install a freestanding onsite Project sign at the perimeter of the site.</p>

Provision	Conformity
<p>authorized by this Chapter shall be allowed in that land use zoning district, unless otherwise expressly provided in this Chapter.</p>	
<p>83.13.030 Sign Permits and Exemptions</p> <p>(a) Sign permits and registration. A person shall not erect a sign regulated by this Chapter without first obtaining appropriate permits from the Building Division and registration with the Code Enforcement Division. Signs shall be erected in compliance with the provisions of this Development Code and applicable specific plans.</p> <p>(c) Exempt signs. The following signs shall be exempt from the requirements of this Development Code and applicable specific plans:</p> <p>(4) Utility company signs identifying conduits, cables, dangerous conditions, or providing other notices of this type.</p>	<p>Yes. As noted in Development Code 83.13.030, utility companies are exempt from the requirement for a sign permit.</p>

5.15.2.4.3 San Bernardino County Ordinance 3900

San Bernardino County Ordinance 3900 entitled “An Ordinance of the County of San Bernardino, State of California, Amending Sections 87.0920 and 812.12089, Adding Section 87.0921 to Chapter 9 of Division 7 of Title 8 of the San Bernardino County Code and Repealing Section 86.080550 of Title 8 All Relating to Regulations for Glare, Outdoor Lighting, and Night Sky Protection” was adopted on September 23, 2003(San Bernardino County, 2009d).

The Ordinance requires shielding of new lighting for new construction unless determined to be exempt, to preclude light pollution or light trespass on adjacent property, on any other property within the line of sight (direct or reflected) of the light source, or to any member of the public who may be traveling on adjacent roadways or rights-of-way.

The following fixture lamp types shall be fully shielded in commercial/industrial areas: low pressure sodium, high pressure sodium, metal halide, fluorescent, quartz, incandescent greater than 60 watts, mercury vapor, and halogen. There are no requirements for incandescent 60 watts or less, or glass tubes filled with neon, argon, or krypton. Advertising purpose lights, including searchlights and laser source lights (or lights of similar light intensity), are prohibited.

The provisions of the San Bernardino County Ordinance 3900 that are applicable to visual resources are summarized in Table 5.15-4. The provisions are also evaluated for conformity as if the County had jurisdiction over Project development.

Table 5.15-4. Conformity of Mojave Solar Project with the San Bernardino County Ordinance 3900

Provision	Conformity
<p>87.0921 Glare and Outdoor Lighting – Mountain and Desert Areas.</p> <p>(a) The intent of this section is: to encourage effective, non-detrimental lighting; to maintain night-time safety, utility, security and productivity; and to encourage lighting practices and systems which will minimize light pollution, glare and light trespass, conserve energy and resources and curtail the degradation of the night time visual environment.</p>	<p>Yes. The proposed Project would comply with Ordinance 3900 by design of light fixtures and placement of light sources. The Project would have directional lighting, lenses, and shields to minimize light trespass, light spill, and sky glow.</p>

5.15.3 Visual Characteristics of Proposed Project

5.15.3.1 Project Description Summary

The dimensions of major Project structures to be installed at the Project site are listed in Table 5.15-5 (Redell Engineering, 2009).

Table 5.15-5. Approximate Dimensions of Mojave Solar Project Structures

Structure	Quantity	Height (ft)	Length (ft)	Width (ft)
Warehouse	2	16.5	170.0	80.0
Water Treatment Building	2	16.5	50.4	36.4
Heat Transfer Fluid Electrical Buildings	2	16.5	49.2	26.2
Cooling Tower Electrical Buildings	2	16.5	57.0	20.0
Closed Cycle Cooling Buildings	2	30.0	39.7	18.9
Diesel Generator Building	2	30.0	40.0	12.0
Auxiliary Boiler Building	2	30.0	50.0	28.6

Structure	Quantity	Height (ft)	Length (ft)	Width (ft)
Auxiliary Boiler Building	2	15.5	20.5	14.0
Heat Transfer Fluid Pump House	2	23.0	81.5	70.0
Power Plant E&C Buildings	2	32.0	111.0	25.0
Central E&C and Operations Building	2	32.0	163.0	109.0
Mirror Modules Assembly Factory	2	44.0	295.3	262.5
Cooling Towers	2	44.0	324.0	54.0
Steam Generation	2	50.0	198.0	70.0
Steam Turbine Generator Building	2	72.5	142.1	107.8
Solar Collectors	22,500	21.1	39.4	18.9
Steel/Concrete Monopoles	32	80 to 110	25 inch base diameter	9 inch tip diameter

5.15.3.2 Visual Characteristics of Project

The Project would use well-established, parabolic trough solar thermal technology to produce electrical power, which uses a steam turbine generator (STG) fed from solar steam generators (SSG). SSGs receive heat transfer fluid (HTF) from solar thermal equipment comprised of arrays of parabolic mirrors that collect energy from the sun. The Project would have a combined nominal electrical output of 250 megawatts (MW) from twin, independently-operable solar fields, each feeding a 125-MW power block. The plant sites, identified as Alpha (the northwest portion of the Project area) and Beta (the southeast portion of the Project area), would be 884 acres and 800 acres respectively and joined at the transmission line interconnection substation to form one full-output transmission interconnection. The major project structures to be installed at the Mojave Solar Project site, which is approximately 1,765 acres in size, would be two fields of parabolic solar troughs, two power blocks, and a substation interconnect to an existing overhead transmission line adjacent to the south side of the project. Figure 2-3 in the Project Description shows the layout of proposed Project facilities.

Solar troughs:

The solar troughs are parabolic mirrors that focus the sun's energy onto a heat transfer pipe. The parabolic troughs are supported by structures (pylons) that connect the parabolic troughs to the tracking mechanism, with concrete pier foundations and spread footings set

on a flat and leveled base of native desert soil. The top of the mirrors reflect light and take on the color of that is reflected back to the viewer. If the reflected image is the sky, mirrors appear blue, white or gray, depending on sky color. If the mirrors are aimed toward the horizon, the reflected image is of the soil color, which is tan to gray, as experienced in a site visit to the nearby existing SEGS VIII and IX facilities.

Power Blocks:

The Project would include a warehouse and control/admin building located in each power block. The design and construction of the buildings will be consistent with normal building standards. Other plant site "buildings" would include the water treatment building, as well as a number of pre-engineered enclosures for mechanical and electrical equipment. The two power blocks are identical, and would be composed of large, rectangular, pre-fabricated metal buildings with shallow gable and/or shallow shed roofs. Walls would be a warm pallet of light tan colors sympathetic to the desert context.

Solar Collector Assembly Buildings:

There would be two solar collector array assembly buildings in the northeast portion of the Alpha solar field. The design and construction of the buildings will be consistent with normal building standards, and would be composed of large, rectangular, pre-fabricated metal buildings with shallow gable and/or shallow shed roofs. Walls would be a warm pallet of light tan colors sympathetic to the desert context.

Transmission line:

The overhead transmission lines within the project site would be light weight steel monopoles or concrete monopoles, light gray in color.

Water Storage Tanks:

There would be a number of covered water tanks on each site including a 1,930,000-gallon Raw Water storage tank for short-term backup cooling water supply, with a portion (360,000 gallons) dedicated to the plant's fire protection water system and a 1,930,000-gallon Service Water storage tank. There would also be a 164,500-gallon storage tank for storage of demineralized water.

Roads, Fencing, and Security:

Access to the Project will be provided along Harper Lake Road and Lockhart Road. Road widths and pavement types will be designed and constructed to satisfy the requirements of the County of San Bernardino Transportation Department and the San Bernardino County Fire Marshall. All-weather, paved access will be provided to both power islands for emergency and fire access. Only a small portion of the overall plant site would be paved with asphalt, primarily the site access road and portions of the power block (paved parking lot and roads encircling the STG and SSG areas). In total, each power island would be approximately 20 acres with approximately 1.75 acres of paved area. Fencing would be galvanized gray chain link fence, six to eight feet tall.

Grading and Drainage:

The proposed Project site is located in the arid Mojave (average annual rainfall in the site vicinity is reported as less than seven inches). The existing topography of the Project site is an average slope of 1%, with existing site elevations ranging from approximately 2025 to

2105 feet amsl. The property has sheet drainage/run-off and during infrequent large precipitation events, and is largely fallow agricultural land. The solar field areas would be graded generally following the existing contours of the site as planar tiers to accommodate the installation of the solar field components. Stormwater on the solar field area would drain by sheet flow and allowed to settle in the solar fields and percolate. Site runoff is not anticipated from the solar field. The Project's power islands and solar field areas will be graded to allow for a balanced distribution of material, so there would be no requirement to truck large quantities of earth materials to or from the site.

Drainage channel crossings on Harper Lake Road and Lockhart Road will be constructed to convey the 100-year storm runoff flows beneath the roadway to maintain 24-hour access to the power islands. Access to the solar fields will be provided via fair-weather crossings along the channel bottoms. These crossings will provide vehicular access during fair-weather, while allowing drainage flows to cross the roadways during periods of storm runoff.

Onsite Transmission Lines:

The entire length of the transmission gen-tie line is located on the project site and would be installed on approximately 23 new steel/concrete monopoles from the Alpha Plant site and approximately nine from the Beta Plant site. The poles are expected to average approximately 80 feet in height (maximum pole height of 110 feet), with a span length expected to average approximately 500 feet.

On-Site Interconnection Substation:

The interconnection substation would be located on the project site in the SW corner of the Beta site. An Interconnection Station would be constructed at the boundary of the project to intertie to the Kramer-Cool Water 230 kV transmission line. The station will utilize tubular aluminum alloy 1200A bus. Final switchyard and/or substation equipment would be determined during final engineering of the proposed interconnection. The interconnection is proposed on the project site and would extend to a point under the adjacent power lines in the transmission right-of-way.

Lighting System:

The Project's lighting system would provide operations and maintenance personnel with illumination in both normal and emergency conditions. The system would consist primarily of AC lighting, but would include DC lighting for activities or emergency egress required during an outage of the plant's AC electrical system. The lighting system would also provide AC convenience outlets for portable lamps and tools. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives and would be shielded and oriented to focus illumination on the desired areas and minimize additional nighttime illumination in the site vicinity.

Cooling Tower Exhaust Design Parameters and Plume Modeling:

Cooling towers at Alpha and Beta power islands would be similar to the cooling towers at the existing SEGS VIII and IX Power Islands, which are directly northwest of the proposed Project site.

The project will include the use of two six-linear-cell wet mechanical draft cooling towers, one for each power islands in order to adequately reject heat from the thermodynamic

power cycle process to the atmosphere from the proposed Project. The air leaving the cooling towers is usually saturated with moisture and warmer than the ambient air, causing the potential for a visual plume to be formed. The saturated exhaust plume may be visible or not depending on the specific meteorological conditions. This plume will also vary in size depending on meteorological conditions and operational factors.

Potential issues associated with cooling tower plumes include the presence of visual plumes and the occurrence of ground level fogging and/or icing episodes that involve the ground contact of visible plumes. In order to evaluate the effects on the local and regional environment, a modeling analysis was conducted to simulate the cooling tower plumes from the proposed Project using three (3) years of meteorological data, collected at Daggett, California.

Modeling Techniques

The Seasonal/Annual Cooling Tower Impact Program (SACTIP, Version 11-01-90) was used to assess potential impacts from the cooling tower. SACTIP was developed by Argonne National Laboratory¹ for the Electric Power Research Institute (EPRI) to address the following potential adverse impacts of cooling towers:

- Plume visibility
- Deposition of cooling tower drift
- Ground-level fogging and icing
- Shadowing by the plume & reduction of solar energy

SACTIP contains algorithms for both natural and mechanical draft cooling towers arranged singly or in clusters. Plume merging and associated enhanced plume rise are treated by the routines contained in the model. While the SACTIP model does not have any official regulatory endorsement, this model has been applied for a large number of projects where cooling tower impact assessments were required. The characteristics of the tower and the preparation of the meteorological data set are discussed below.

The characteristics of the proposed cooling tower are listed in Table 5.15-6. These input parameters were obtained from the Project's engineering consultant and is based on preliminary design data for the facility.

A three (3) year meteorological data set was constructed using hourly surface observations from the Daggett Airport meteorological station, located near the proposed Project location, for the years 1988 through 1990. As discussed below, nighttime hours were removed from the meteorological data set as well as daytime hours where weather or other visibility-obscuring phenomenon would impair visibility. Figure 5.15-6 displays a wind rose constructed from all hours of the data. The average wind speed is 2.02 meters per second (m/s) and high winds greater than 8.8 m/s are infrequent (one percent for the data set). Wind speeds either missing or less than the threshold of the anemometer at Daggett occur for approximately five percent of the time period.

¹Argonne National Laboratory, 1984. User's Manual: Cooling-Tower -Plume Prediction Code. Prepared for Electric Power Research Institute, 3412 Hillview Avenue, Palo Alto, CA 9404, EPRI CS-3403-CCM, April, 1984.

Given the length of time of the data used in the SACTIP analysis, the data used are considered representative of the climatic conditions of the area where plume formation can occur. Even with this representative data set, short-term variability in conditions can affect the prediction of cooling tower plume impacts. Therefore, the results of the analysis are considered an indicator of likely occurrence and not an absolute predictor of events.

Cooling Tower Modeling

SACTIP was applied to simulate plumes from the proposed cooling towers using the three (3) year meteorological data set and tower design characteristics described previously. Default options were assumed for the input variables controlling the model's operation. The three (3) year data set was input into SACTIP to produce a three (3) year average frequency distributions for condensed plume length, condensed plume height, plume shadowing, and ground level fogging. Although the model provides information on plume shadowing and drift deposition, the focus of our analysis and the discussion that follows is on visible plume dimensions and ground based fogging.

Table 5.15-6. Cooling Tower Input Parameters

Parameter	Value
Type	Linear mechanical draft 2 towers, 6 cells
Heat Dissipation Rate (MW)	251 (maximum summer)
Circulation Rate (gpm)	90,000
Total Tower Air Flow (kg/s)	2835 – 3910
Max Drift Rate (%)	0.0005
Salt Concentration (mg/l)	9,969
Orientation	One bank of 6 in-line cells aligned north to south
Height (m)	15.55
Equivalent Total Cell Diameter (m)	22.4
Exit Velocity & Temperature	Variable, calculated by the model assuming saturation conditions

Conditions favoring a long condensed plume occur more frequently in the fall and winter seasons, as atmospheric conditions, such as air temperature and relative humidity, are more favorable during these periods. Also, plume formation tends to occur more frequently during nighttime hours and during adverse weather conditions. Since the applicant is not developing a Project with thermal storage, nighttime plumes would not occur. Likewise, adverse weather conditions would typically result in the Project not operating; as such plumes would not occur during these times. The SACTIP meteorological data set was modified by removing the nocturnal hours, which accounted for 50 percent

of all the hours in the three-year (3) data set. In addition, daytime observations with fog, precipitation, visibility less than three (3) miles, or ceiling heights less than 500 feet were excluded from the meteorological data set as under these conditions, a visible plume from the cooling tower would be obscured by these local weather phenomena and as mentioned above the likelihood of the plant operating during these times is low. For the Daggett meteorological data set, these adverse weather conditions account for less than one percent of the total valid (daylight hours) observations. Table 5.15-7 summarizes these statistics.

Table 5.15-7. Hours Modeled with SACTIP

Year	Total hours	Day hours	Night Hours Removed from Analysis	Limited Visibility Hours Removed from Analysis	Total Hours Modeled With SACTIP
1988	8784	4404	4380	74	4330
1989	8760	4394	4366	52	4342
1990	8760	4394	4366	60	4334

Thus, the three (3) year meteorological data set was modified by removing both nighttime hours and hours with weather obscuring phenomena. In total, these conditions accounted for 51 percent of all the hours (day, night, and obscuring weather) in the data set. The SACTIP was then applied to the remaining data set to assess the cooling tower plumes under daytime conditions when a condensed plume would most likely also be a visible plume. Of particular interest was the analysis of visible plume formation during the months when such formation is most likely, namely the fall and winter seasons. The occurrence of low temperatures coupled with high relative humidity occurs with a greater frequency during these seasons. Plume formation is favored during these types of low temperature/high humidity conditions since the ability of the atmosphere to absorb water vapor is greatly reduced because the air mass is at or near saturation.

The results of the cooling tower analysis are summarized in the SACTIP modeling outputs for the annual and seasonal periods. The data presents the frequency distributions of the primary model output variables, namely plume length and height, which are listed by downwind sector and radial distance from the center of the cooling tower array.

Cooling Tower Plume Formation Results

The SACTIP results for all seasons are summarized in Table 5.15-8 below. Impacts are consistent between the seasons. This can be accounted for by the limited variation in seasonal tower characteristics and the lack of extreme seasonal meteorological ranges. The annual values indicate that the majority of visible plume lengths will be less than 50 meters (164 feet). Modeling results indicate that plume formation will occur during valid visible hours but only at locations immediately adjacent to the cooling tower and always within the facility boundary. Larger downwind visible plume lengths are possible, but the downwind visible plume length will be less than 150 meters for 95 percent of all the hours

where a visible plume will form. This results in a plume length exceeding 150 meters for only five percent of the time during all four seasons. When translated into total hours for the season, on average, 217 hours per year will have plume lengths up to but not exceeding 150 meters. SACTIP also predicts that the probability that a visible plume height will exceed 20 meters is less than five percent. The average heights are 20 meters with a median plume radius of 20 meters. 5.15-12 shows the percent of hours modeled where a plume is visible and the relative size of the plume.

Table 5.15-8. Seasonal Plume Characteristics from SACTIP

Plume Characteristics (meters)	<i>Annual</i>	<i>Winter</i>	<i>Spring</i>	<i>Summer</i>	<i>Fall</i>
Median Length	50	50	50	50	50
Median Height	20	20	20	30	20
Median Radius	20	20	20	20	20

Ground Level Fogging and Icing Conditions

A primary focus of the current study is to assess the potential for ground-level fogging on nearby areas. The potential for fogging was assessed with SACTIP. Potential fogging conditions can occur when atmospheric conditions allow the cooling tower plume to generate a cloud that contacts the ground. This can occur under periods of high humidity and favorable temperatures and stabilities with the fog being nucleated or generated by the cooling tower plume. Should fog be generated across a highway or other thoroughfare, it may become a potential hazard and mitigation measures such as signs and traffic assistance may be needed. In order for fogging to affect roadway operations, the cooling tower plume must touchdown on the road surface and be condensed. This requires high winds (low plume rise), the right wind direction, low dew-point depression, and low temperatures.

SACTIP was run with all hours of the three-year database, including nighttime and low-visibility hours. There was only one hour a year of occurrences of predicted fogging from the cooling tower, considering all wind directions. Results for rime icing show that no impacts are expected to occur.

Cooling Tower Summary

A cooling tower modeling analysis was conducted using SACTIP and three years of Daggett, CA meteorological data. Model simulations indicate that visible plumes will occur, but will be moderate in size (height and length). The probability of formation of long visible plumes in excess of 150 meters is about five percent. No plume fogging or rime icing is predicted to occur in the general vicinity of the Project site.

5.15.3.3 Project Design Features That Avoid Significant Visual Impacts

The proposed Mojave Solar Project design inherently includes features that would minimize and/or mitigate visual impacts. For example, there are several reasons that this site was selected for the Project. This land was originally planned for development of the SEGS XI

and XII facilities. The proposed Project site is located next to the existing SEGS VIII and IX facilities that were constructed in the 1990s, and which are situated just northwest of the proposed Project site. Because of the past agricultural operations on the proposed site, there are no native grasses, shrubs, or trees on the Project site, and native desert landscape character has already been disrupted. The proposed Project site is immediately adjacent to two high voltage transmission lines: the SCE 230-kv and LADWP 500-kV line that follow along the south Project boundary. A new substation would be located immediately adjacent to these two transmission lines.

The Project site has an existing groundwater well and the proposed Project can take advantage of routing water from the existing well instead of incurring the visual impacts related to a buried waterline coming from off-site. The new water supply lines would be buried and therefore would not incur light reflection or glint, as could occur with an aboveground pipeline. Finally, Project features have been designed to minimize visual impacts, including but are not limited to painting structures with colors sympathetic to the desert environment, shielding light sources, and using non-reflective materials for Project components other than the solar trough mirrors. Specific Project design features that minimize visual impacts to less than significant levels include the following elements:

- Design Feature 1: The surfaces of all aboveground structures except the solar collectors (i.e., control building, administration building, warehouse, water treatment building, solar collector array assembly buildings, enclosures for mechanical and electrical equipment, substation MERS building, water storage tanks, etc.) will be given low reflectivity finishes with neutral desert tan colors sympathetic to the desert environment in order to minimize the contrast of the structures with their backdrops.
- Design Feature 2: All substation equipment will be specified with low reflectivity, neutral finishes. All insulators at the substations and on the takeoff equipment will be non-reflective and non-refractive. The chain-link fences surrounding the substations and the Project site will have a dulled finish to reduce contrast with the desert surroundings.
- Design Feature 3: For overhead transmission lines, tubular steel poles (TSPs) will be painted light-gray colors or will be dulled galvanized steel. If concrete monopoles are used, they will be natural concrete with light-gray colors. All insulators specified for this Project will be made of materials that do not reflect or refract light. All conductors specified for the Project will be non-specular, that is, they will be treated at the factory to dull their surfaces to reduce their potential to reflect light.
- Design Feature 4: All construction-related operations at the construction laydown area will be kept clean and tidy. The Applicant will remove construction debris promptly at regular intervals, not to exceed two weeks at any one location.
- Design Feature 5: All outdoor lighting will be the minimum required to meet safety and security standards and all light fixtures will be hooded to eliminate any potential for glare effects and to prevent light from spilling off the site or up into the sky. In addition, the light fixtures will have sensors and switches to permit the lighting to be turned off at times when it is not required.

- Design Feature 6: The Applicant will voluntarily consult with residential property owners within one-half (0.5) mile of the proposed Project site boundary to suggest offsite-planting on adjacent residential properties (if landowner is interested) in order to assist with visual screening of the Project as seen from these single family residential locations.

5.15.4 Affected Environment

This section discusses the existing visual character of the region, existing visual quality in the Project area; viewer concern, and viewer exposure to the Project, leading to a rating of overall visual sensitivity. Also discussed are the existing sources of light and glare within the Project area.

5.15.4.1 Regional Setting

The Mojave Solar Project site is situated in unincorporated San Bernardino County in the Harper Lake Valley of the western Mojave Desert. The site is situated approximately five miles north of California SR 58 (the Barstow-Bakersfield Highway). The Mojave Desert is a subsection of the Basin and Range Physiographic Province, which is characterized by long, north-south-trending mountain ranges separated by broad valleys. With respect to regional geographic features, the Mojave Solar Project site is a large, flat planar landscape that slopes northeast toward Harper Dry Lake, with no distinctive geographic features on-site. Harper Dry Lake is a dry alkaline lakebed in the middle of this basin landscape, and the lakebed is situated northeast of the Mojave Solar Project site. Approximately eight miles northeast of the Project site, and beyond the dry lakebed, is Black Mountain, a wilderness area managed by the USDI Bureau of Land Management. Four miles east-southeast of the Project site is Lynx Cat Mountain, and along with an unnamed butte south of SR 58, these landforms create what is locally known as the Hinkley Divide. SR 58 is designated by Caltrans as an Eligible State Scenic Highway, but it is not Officially Designated. SR 58 is eligible for scenic highways status because plants indigenous to the area along the route occasionally have good scenic qualities when wildflowers are in bloom.

The existing SEGS VIII and IX are situated just northwest of the proposed Project site, north of and along Hoffman Road. SEGS VIII and IX utilize similar technology and hardware to that which would be utilized at the Mojave Solar Project. Existing nighttime lighting levels and existing water vapor plumes at the existing SEGS VIII and IX solar plants would be similar to the expected future nighttime lighting and future water vapor plumes at the proposed Mojave Solar Project site.

The proposed Project site is located approximately nine miles northwest of Hinkley, CA, approximately 20 miles west-northwest of Barstow, CA, and approximately 11 miles east-northeast of Kramer Junction, which is located at the intersection of SR 58 and US 395.

5.15.4.2 Plant Site

The Mojave Solar plant site was formerly in agricultural use but at present is not in agricultural production. See Section 5.7, Land Use, for a description of existing land uses on and in the vicinity of the Project. The site's topography is very flat, or planar, and ideal for the proposed solar-thermal application with very little earthwork grading. Elevations range from approximately 2025 to 2105 ft above mean sea level (amsl) across an area of more than three miles. The plant site does not contain significant scenic resources and its

overall level of scenic quality is considered to be low. As discussed in Section 5.3, Biological Resources, the plant site is comprised mainly of Fallow Agriculture-Ruderal and Fallow Agriculture with Saltbush Scrub Re-Growth. There is one parcel of 160-acres within the Project site that is still actively farmed.

The proposed Project site is approximately 1,765 acres in size and is situated on a large, flat desert plain in the Western Mojave Desert. The existing site is composed of large, fallow agricultural fields which previously have been irrigated crop lands (reportedly alfalfa for former dairy farms at Lockhart Ranch). As seen on aerial photographs, each one-mile section of land at the Project site has four large circular crop fields, the result of center pivot irrigation. As seen on the ground, this same landscape simply looks like a single large flat plain of dry crop vegetation (fallow agricultural land). This land was originally sited as SEGS XI and XII and is located next to the existing SEGS VIII and IX facilities that were constructed in the 1990s. Because of the past agricultural operations, there are no native grasses, shrubs, or trees on the Project site. Existing evergreen tree windbreaks can be seen readily on the ground and on aerial photos, and are found in both Alpha and Beta sites. These windbreaks tend to run either north-south or east-west. The Beta power block would occupy the site of one of these windbreaks.

The Project site was specifically selected because of the past agricultural modifications to the landscape and the Project was configured to minimize environmental impacts. The approximately 1,765-acre plant site is vacant and significantly disturbed from past and current agricultural activities. The few remaining agricultural structures would be demolished and associated materials would be removed.

Photographs of the site in its current condition are presented in Section 2.0 Project Description, Figures 2-2a, 2-2b, 2-2c, 2-2d and 2-2e.

The Mojave Solar plant site has distant views to and from Black Mountain, which is approximately eight miles northeast of the site. Overall, visibility of the plant site and its surrounding area is very limited because of the flat terrain on the site, and because of small undulations in the Mojave Desert plain, much of the Project site is blocked from view by intervening topography. Local visibility of the plant site is shown in Figure 5.15-1 Regional Visibility of the Project. The greatest potential for public views of the Mojave Solar Project site is from Harper Lake Road, two to three miles north of SR 58, headed northbound. The Project site is not visible from SR 58, an Eligible State Scenic Highway.

Harper Lake Road crosses under the existing SCE 230-kV and LADWP 500-kV transmission lines before intersecting the Plant Site. The proposed Hinkley Substation site, on the south edge of the Project site and more than one mile east of Harper Lake Road, is where the Project would interconnect with the regional transmission system. Other viewing opportunities are from scattered rural residences, Harper Lake Road, Lockhart Ranch Road, and the BLM watchable wildlife area on the southwest shore of Harper Dry Lake, at the Harper Dry Lake Marsh Area of Critical Environmental Concern (ACEC). Additionally, long distance views to the plant site would be available from higher elevations of the Black Mountain Wilderness, although there are no trails within this wilderness, according to local BLM officials (Bradley Mastin, 2009). Most recreation activity occurs in Black Canyon and at the northern extent of the wilderness, where extensive petroglyphs have been found. The Project site would not be visible from the northern extent of Black Mountain Wilderness, according to the Figure 5.15-1: Regional Visibility of the Project Map.

The area surrounding the plant site is very lightly populated. There are scattered rural residences in the vicinity of the plant site, but no occupied residences on the plant site. Approximately 10 rural residences and small farms are located in the vicinity within one mile of the Project site (see Land Use Section 5.7). The nearest residence with views to the plant site is located on the south side of Lockhart Ranch Road, across the road from the eastern portion of the Alpha Plant. The other closest residences are located approximately ¼ mile north of the western portion of the Alpha site, and approximately ¼ mile west of the western portion of the Beta site. These residences would have views at a distance of one mile or more from the Project's two power blocks, where the facility's largest structures and equipment would be located.

During site investigations conducted in the immediate vicinity of the proposed Project, the visual analysts noted that most of these rural residences have views of the Project site. The majority of these viewers would have direct, unobstructed views to the Project site; however, a number of these homes have vegetative screens (evergreen windbreaks) that minimize current views to the site. A few of these residences may have views that are partially obscured due to the presence of adjacent residences in the foreground; other residences are partially obscured by existing vegetative screening and windbreaks.

5.15.4.3 Electric Transmission Line

Figure 5.15-1 – Regional Visibility of the Project also shows the location of the transmission line route and its local visibility, which is the same as the Plant Site. As with the plant site, the greatest potential for public views of the transmission line is from Harper Lake Road, Lockhart Ranch Road, and the BLM watchable wildlife area. Other viewing opportunities are from local residences. The proposed transmission line would not be visible from the Black Mountain Wilderness because of the long distances involved and the size of the transmission line. The transmission line route would cross through a landscape that does not contain significant scenic resources, and overall levels of scenic quality are considered low.

5.15.4.4 Visual Resources Evaluation Factors and Methodology

Visual resources of the Project area were investigated based on the following criteria: 1) existing visual quality and scenic attributes of the landscape; 2) location of sensitive receptors in the landscape and assumptions about receptors' concern for scenery and sensitivity to changes in the landscape, referred to as sensitivity levels; 3) the magnitude of visual changes in the landscape that would be brought about by implementation, construction, and operation of the Project; and, 4) compliance with State, County and local policies for visual resources.

5.15.4.4.1 Visual Resource Inventory Methodology

Sources that were consulted for information on existing and future visual resources in the Project area included USGS topographic maps, AAA highway maps, BLM Surface Management Status Maps for Cuddeback Lake and Victorville, Google Earth images, internet sources, and Applicant-provided site plans and engineering drawings. Regulatory standards were investigated, including the San Bernardino County General Plan and the California Energy Commission (CEC) Rules of Practice and Procedure & Power Plant Site Certification Regulations from April 2007.

Baseline data were collected using an approach that incorporated a combination of information review, agency consultation, analysis of aerial photographs and satellite imagery, map review, field reconnaissance, and on-site photography. Existing information was used to the extent possible and appropriate, including the Solar Electric Generating Systems (SEGS) XI and XII Project AFC, the Beacon Solar Energy Project AFC, and the CEC Report on Visual Resources for the Beacon Solar Energy Project.

Baseline data were collected for the environmental setting using the following methodology:

- A general overview and site reconnaissance was conducted with Redell Engineering staff in April 2009, followed by independent site reconnaissance and site analysis by the visual analyst contractors.
- Locations of sensitive receptors were noted on USGS topographic maps showing highways, roads, residences, and the BLM watchable wildlife area.
- Viewpoints were identified from which the proposed Project would be seen.
- From all viewpoints investigated, the most critical views were selected as "waypoints" (possible KOPs), and landscape photographs were taken from these viewpoints. At each waypoint, a GPS reading of latitude, longitude and elevation was recorded.
- From all waypoints, the eight (8) most critical were selected as KOPs for analysis, based on their ability to exemplify visual resource impacts at a particular location. KOPs that were analyzed are representative of Project induced visual resource impacts to this particular landscape.
- Computerized visual simulations were carefully constructed based on existing landscape photography, three-dimensional computer models of proposed Project features, USGS topographic maps, and grading plans provided by the Applicant showing Project facilities. These pairs of before and after landscape photographs/simulations are found at the end of Section 5.15.

For each KOP analyzed in this AFC, a photograph and simulation has been printed on 8½ by 11 inch-paper. If the reader stands at the exact location of the KOP looking in the direction the photo was taken, each photograph and simulation will appear "life-size" when held approximately 10-inches away from the viewer's eyes. In the following section, the existing visual situation is described for each KOP. Future visual effects of the proposed Project are predicted for each KOP in conjunction with and by using the computerized visual simulations.

Field investigations were conducted to document the visual characteristics and issues of the Project area, identify KOPs, and photograph existing visual conditions. Photography was conducted using a Canon 50D digital camera with zoom lens set on a "normal" focal length, which replicates a standard 50-mm lens on a film camera. This lens setting provides a "normal view," thereby eliminating distortion. For comparison to this "normal lens," a wide angle lens makes background features appear unrealistically small and seem further away, while a telephoto lens makes background features unrealistically larger and seem closer in the photograph. The normal lens makes all landscape features appear in their proper perspective and size, relative to each other.

Photographs of existing landscape conditions and computer-generated visual simulations are provided in this section to accurately portray the proposed Project and changes to the visual character of the landscape. These eight simulations present views from seven different locations that were selected as Key Observation Points (KOPs) for purposes of the visual resources evaluation of the Project. Two of the simulations (labeled as KOP-6 and KOP-7) were taken at the same vantage point, but looking in different directions – south and west, respectively. The KOPs are shown in Figure 5.15-2 – Key Observation Points Map at the end of Section 5.15.

5.15.4.4.2 Existing Visual Quality

Visual quality judgments were made by the visual analysts based on professional qualifications and experience applying criteria that include the following elements:

- Landscape features, including topography, water features, and vegetation;
- Cultural alterations and built structures, including roads, agricultural fields, residences and outbuildings; and
- Dominance elements in the characteristic landscape, including form, line, color, texture, and scale of landscape features and cultural alterations.¹

¹ The character of a landscape is the overall impression created by its unique combination of visual features (such as land, vegetation, water, and structures) as seen in terms of form, line, color and texture. (USDI BLM, 1986a)

Overall landscape visual quality was evaluated in the range of High, Moderate, or Low, based on the visual resource management systems of the USDI Bureau of Land Management (BLM) (1986a); U.S. Department of Transportation (DOT) Federal Highway Administration (1988); and U.S. Forest Service (1995). The elements of the rating scale are defined below:

- High Visual Quality: These landscapes contain natural and/or cultural elements of high quality scenic value. Areas of high visual quality have the most variety and most harmonious compositions for the landscape character type.
- Moderate Visual Quality: These landscapes contain natural and/or cultural elements of moderate scenic value. Visual variety and compositions are average for the landscape character type.
- Low Visual Quality: These landscapes contain natural and/or cultural elements of low scenic value. Visual variety and compositions are either missing or below average for the landscape character type.

5.15.4.4.3 Sensitivity Levels

When viewing the same landscape, people may have different responses to that landscape and any proposed visual changes, based upon their values, familiarity, concern, or expectations for that landscape and its scenic quality. Because each person's attachment to and value for a particular landscape is unique, visual changes to that landscape inherently affect viewers differently. However, generalizations can be made about viewer's sensitivity to scenic quality and visual changes. Recreationists, hikers, equestrians, tourists and people driving for pleasure are expected to have high concern for scenery and landscape character. People who are commuting daily through the same landscape generally have a

moderate concern for scenery, while people working at industrial sites (such as solar farms) generally have a lower concern for scenic quality or changes to existing landscape character. The visual sensitivity of a landscape is affected by the viewing distances at which it is seen, such as close-up or far away. The visual sensitivity of a landscape also is affected by the travel speed at which a person is viewing the landscape (high speeds on a highway, low speeds on a hiking trail, or stationary at a residence).

For federal lands, the BLM assigns high, medium, and low sensitivity by analyzing the various indicators of public concern, such as type of user, amount of use, public interest, adjacent land uses, special interest areas, and other factors such as research or special studies of viewers' preferences. The BLM Visual Resource Management (VRM) Handbook states that "sensitivity levels are a measure of public concern for scenic quality."

Because the Mojave Solar Project is on private land, not federal land administered by the BLM, the visual analysts used professional judgment about the public's concern for visual quality at the project site. Additionally, the analysts identified locations of sensitive receptors in the landscape and made assumptions about sensitive receptors' concern for scenery and their sensitivity to changes in the landscape.

Distance between the viewer and the landscape being viewed also determines visual sensitivity to change in the landscape. This is defined as "viewing distance" or "distance zones." According to the BLM VRM Handbook distance zone classification system, distance zones are delineated into three classes:

- Foreground-Middleground (from the observer to 3 or 5 miles),
- Background (from the foreground-middleground to approximately 15 miles away), and
- Seldom Seen (areas screened by topographic features or beyond 15 miles away) (USDI BLM, 1986a).

Because the BLM foreground-middleground zone covers such a large range, other visual management systems were also investigated for the Mojave Solar Project. The USDA Forest Service Scenery Management System (SMS) defines four distance zones as follows:

- Immediate Foreground (from the viewer to approximately 300 feet away)
- Foreground (approximately 300 feet to 0.5 mile away)
- Middleground (approximately between 0.5 and 4 miles away)
- Background (approximately 4 miles to the horizon) (USDA FS, 1995)

The same project features can be perceived differently by people depending on the distance between the observer and the viewed objects. For the purpose of this analysis, both the BLM and FS VRM systems were considered, and a blend of distance zones were selected. Distance zones considered for the Mojave Solar Project are delineated as foreground, middleground, and background. When a viewer is closer in proximity to a viewed object in the landscape (foreground), more detail can be seen and there is greater potential influence of the object on visual quality because of its form or scale (relative size of the object in relation to the viewer). When the same landscape feature is viewed at background distances, details may be imperceptible but overall forms of terrain and vegetation are evident, and the horizon, ridgelines, and the skyline are dominant. In the

middleground, some detail is evident (like the foreground) and landscape elements are seen in context with landforms and vegetation patterns (like the background). For this analysis, these different agencies' criteria were considered, along with all factors of Project site visibility, resulting in a decision to use these three viewing distances for the Mojave Solar Project:

- Foreground (from the viewer to approximately 0.5 mile away)
- Middleground (approximately between 0.5 and 4 miles away)
- Background (approximately between 4 miles and 15 miles away)

Overall visual sensitivity was evaluated in the range of High, Moderate, or Low, based on the concern level of sensitive receptors, the distance from the observer to the proposed Project, and the visual analysts' professional judgment and experience, with the rating scale as defined below:

- High Sensitivity: These landscapes are highly valued and changes in the characteristic landscape are more likely to trigger public concern.
- Moderate Sensitivity: These landscapes are moderately valued and changes in the characteristic landscape are moderately likely to trigger public concern.
- Low Sensitivity: These landscapes are not especially valued for their scenic quality and changes in the characteristic landscape are not likely to trigger public concern.

5.15.4.4.4 Visual Simulations

Figures 5.15-3 through 5.15-10 represent the existing visual condition and visual simulations from each of the eight KOPs. In each case, the first figure in the series (e.g., Figure 5.14-4a) represents the existing visual condition and character of the landscape without the Project. The second figure (e.g., Figure 5.15-3b) accurately simulates the visual environment including the Project facilities. (Also see AFC Section 2.0 for photographs of existing pre-Project conditions at the plant site).

The computer-aided photographic simulations were developed as described below. Computer modeling and rendering techniques were used to produce the simulated images of the views of the Mojave Solar Project site as they would appear from each KOP after the completion of Project construction. Existing USGS topographic and engineering (AutoCAD) data were utilized to construct a three-dimensional (3D) model of the entire proposed Project. Using 3DStudio Max software, this 3D model can be viewed at any angle and from any vantage point (aerial view, such as seen in the Executive Summary or at an on-the-ground eye level, a height 5.5 feet, such as seen in Figures 5.15-3 through 5.15-10). The location of each KOP was recorded using a Garmin 76csx GPS unit which recorded the latitude, longitude, elevation, and time of day photographs were taken. These 3D model images were combined with the digital photography from each KOP to produce a wireframe composite image. After verifying that the 3D model was correctly placed into the photograph, certain elements of existing landscape photograph were removed in layers using PhotoShop software, allowing the 3D model elements to replace these existing features. Using 3DStudio-Max software, surfaces of the 3D model were rendered with photo-realistic colors and textures to realistically portray the power generating facility and transmission system. Shadows were simulated based on time of day that each photo was taken. Atmospheric conditions (haze, smog, clouds, etc) were portrayed using PhotoShop

software. Digital visual simulation images of computer renderings were combined with the existing condition photographs based on terrain information from USGS topo maps, GPS data, and Google Earth aerial images. The final “hardcopy” simulation images that appear in this AFC were produced from the digital image files using a color printer.

5.15.4.4.5 Project Visibility

Figure 5.15-1 – Regional Visibility of the Project provides a generalized indication of the project viewshed, i.e., the areas from which the proposed power plant and transmission line are likely to be visible. Determination of the project’s viewshed was based on a review of Project engineering drawings, placement of an imaginary computerized “observer” half way up to the top of the Steam Turbine Generator Building (the tallest structure in the power block), and a computerized digital terrain model, upon which a visibility viewshed analysis was performed using Geographic Information Systems (GIS) technology. By comparing the GIS computerized visibility printout with the USGS topographic map and aerial photo, and verifying the output based on field observations, Project visibility was predicted. The boundaries of the viewshed were set at 15 miles from each power block, because elements of a view that are 15 miles or more from the viewpoint are considered part of the seldom seen area (USDI BLM, 1986a). The viewshed map indicates two categories of visibility: (1) those areas in which the tallest proposed Project features are likely to be generally visible, and (2) those in which views toward the Project are likely to be blocked by topographic features, according to the digital terrain model.

5.15.4.4.6 Key Observation Points (KOPs)

As noted above, the approach to evaluating the potential visual impacts of the Mojave Solar Project is based on professional judgment of the visual analysts, establishment of KOPs, preparation and analysis of computerized visual simulations. From among all possible vantage points, eight were selected by the visual analysts to represent typical views of the Project. The basis of selecting these eight KOPs was that each one displays a different sensitive receptor location from which the Project would be visible, and that accurately represents how the Project would appear when seen from different distance zones: foreground-midground; and background. In consultation with CEC Staff, Redell Engineering, and the visual analysts, on April 13, 2009, CEC staff indicated that due to workload constraints, CEC staff would not be available to visit the Project site until after the AFC is filed, and CEC directed the Applicant and visual analysts to proceed with selection of KOPs. Based on the visual analysts professional experience, during a site visit by the Project engineer and the visual analysts, eight KOPs were selected to evaluate the Project’s existing conditions and potential visual impacts. They are as follows:

- KOP-1 – Located on Harper Lake Road Near Phoenix Road, heading northbound.
- KOP-2 – Located on Harper Lake Road South of Roy Road, heading northbound.
- KOP-3 – Located on Roy Road East of Edie Road.
- KOP-4 – Located on Edie Road South of Lockhart Ranch Road.
- KOP-5 – Located on Lockhart Ranch Road East of Edie Road.
- KOP-6 – Located at the BLM watchable wildlife area, looking south.
- KOP-7 – Located at the BLM watchable wildlife area, looking west.

- KOP-8 – Located on Fossil Bed Road near Black Canyon Road, looking west.

KOP-1 – Harper Lake Road Near Phoenix Road

KOP-1 is located on Harper Lake Road near Phoenix Road. Harper Lake Road is the major north-south road leading to the Project site, and it also provides access to several rural residences in the area (see Figure 5.15-3a – Existing Visual Conditions at KOP-1, Harper Lake Road Near Phoenix Road). Phoenix Road is an east-west one-lane dirt “road” that is part of a platted, undeveloped subdivision in the Mojave Desert, south of the proposed Project and east of Harper Lake Road. KOP-1 is located approximately 0.25-miles north of Phoenix Road.

The speed limit on Harper Lake Road is 55 miles per hour (MPH). However, speed of travel on Harper Lake Road is approximately 45 to 55 MPH, because it is restricted by the rolling nature of the landscape. The view north from KOP-1 is one of the first viewing opportunities as people travel north from SR 58. The Project site is not visible from SR 58 because of the rolling nature of the desert landform that has heretofore obstructed views to Harper Dry Lake and the Project site. At this point in the road, viewers are aimed directly at the proposed Project, which would be located on the flat plain at the far edge of the native creosote bush scrub vegetation, in fallow agricultural fields which appear light tan in this view. The proposed Project site is approximately three to four miles away. This is a middleground viewing distance to the Project. Overall the landform appears very flat and devoid of interesting features, except for Black Mountain on the horizon at the right side of this photograph. Wooden electric distribution poles line the left (west) side of Harper Lake Road, creating some of the only vertical landscape elements in the foreground. Two electric transmission lines are visible in the middleground, crossing the view from right to left in an east-west direction. These are the existing 230 kV Kramer-Coolwater transmission line and the existing 500-kV Mead-Adelanto transmission line that are located along Utility Road. These two transmission lines with their lattice steel towers create additional vertical lines in this otherwise horizontal landscape. Harper Lake Road is used by residents who live in widely scattered rural residences, workers at the existing SEGS VIII and IX facilities, and wildlife watchers at the dry lake.

Viewer Exposure: low. Because there is very little landscape screening by landforms or vegetation, the proposed Project would be physically visible in the middleground, but because the landform is so flat, visibility to the Project site is limited as seen from KOP-1. The number of viewers on Harper Lake Road is low (as compared to other vantage points, such as Highway 58, which is further away to the south, or the City of Barstow, which is further away to the southeast). For these viewers on Harper Lake Road, the duration of view would be brief because of the speed of travel, leading to a moderate viewer exposure.

Viewer Concern: low-to-moderate. Residents and visitors enjoy the predominantly natural setting with middleground panoramic sightlines to the Mojave Desert, Harper Dry Lake, and Black Mountain. Travelers on Harper Lake Road can be expected to have low-to-moderate concern for visual impacts from the proposed Project features, because they are subjected to similar views of the nearby existing SEGS VIII and IX facilities on a daily basis. Overall, viewer concern is estimated to be low-to-moderate.

Visual Quality: low. The primary focal point in this landscape is the road which creates a strong linear feature leading into the distance. Secondary focal point is Black Mountain on the right side of the view, on the skyline. There are no distinctive or interesting landform features, vegetative patterns, water features, or cultural (manmade) features in this view, leading to an overall low visual quality for the Project site.

Overall Visual Sensitivity: low. For workers, visitors, and residents traveling on Harper Lake Road looking at the proposed Project site, and from KOP-1 specifically, the low viewer exposure, low-to-moderate viewer concern, and low visual quality, leads to a low overall visual sensitivity of the visual setting and viewing characteristics.

KOP-2 – Harper Lake Road South of Roy Road

KOP-2 is located on Harper Lake Road South of Roy Road, heading northbound (see Figure 5.15-4a – Existing Visual Conditions at KOP-2, Harper Lake Road South of Roy Road). KOP-2 is approximately two miles north of KOP-1. At this point on Harper Lake Road, there is a windbreak on the left side of the road (just barely visible in the photograph). This windbreak surrounds a single family residence, one of several rural residences in the Project vicinity. The landscape is predominantly flat with native desert vegetation. The only vertical lines are those created by the wooden distribution poles carrying electric and telephone lines. The dominant focal point in this landscape is the road itself, reinforced by the repetitive pattern of wooden utility poles on the left side of the road, leading the viewers' eyes to the flat horizon. A large rectangular form is visible just to the left side of the road at this focal point. This is an abandoned concrete building that was used for agricultural storage. The roof has been removed from this abandoned building (which would be removed for the Project). Black Mountain is a secondary focal point on the skyline at the far right side of this view. Two or three scattered rural residences are visible on the left (west) side of the road. The proposed Project site is approximately 0.75 miles away from KOP-2, making this a middleground viewing distance.

Viewer Exposure: moderate. Because there is very little landscape screening by landforms or vegetation, the proposed Project would be physically visible in the middleground, but because the landform is so flat, visibility to the Project site is limited as seen from KOP-2. The number of viewers on Harper Lake Road is low (same as KOP-1) and low for the scattered rural residences. For these viewers on Harper Lake Road, the duration of view would be brief because of the speed of travel. For residents living in the vicinity, duration of view would be extended, leading to a moderate viewer exposure.

Viewer Concern: low-to-moderate. Residents and visitors enjoy the predominantly natural setting with middleground panoramic sightlines to the Mojave Desert, Harper Dry Lake, and Black Mountain. Travelers on Harper Lake Road can be expected to have low-to-moderate concern for visual impacts from the proposed Project features, because they are subjected to similar views of the nearby existing SEGS VIII and IX facilities on a daily basis. Overall, viewer concern is estimated to be low-to-moderate.

Visual Quality: low. The primary focal point in this landscape is the road which creates a strong linear feature leading into the distance. Secondary focal point is Black Mountain on the right side of the view, on the skyline. There are no distinctive or interesting landform features, vegetative patterns, water features, or cultural (manmade) features in this view, leading to an overall low visual quality for the Project site.

Overall Visual Sensitivity: low-to-moderate. For workers, visitors, and residents traveling on Harper Lake Road looking at the proposed Project site, and from KOP-2 specifically, the moderate viewer exposure, low-to-moderate viewer concern, and low visual quality lead to a low-to-moderate overall visual sensitivity of the visual setting and viewing characteristics.

KOP-3 – Roy Road East of Edie Road

KOP-3 is located on Roy Road East of Edie Road, looking east-northeast (see Figure 5.15-5a – Existing Visual Conditions at KOP-3, Roy Road East of Edie Road). Roy Road is a two-lane dirt/gravel road that runs east from Harper Lake Road. Roy Road dead-ends at this KOP location, and KOP-3 represents a typical view for three residences along Roy Road. The proposed Project site is less than 0.25-miles east of KOP-3, making this a foreground view. The landscape in this vicinity is not distinctive, consisting of a flat desert plain covered with native creosote bush scrub and grasses. Beyond the fence line of wooden posts, which is a property line for the proposed Project, there is a fallow agricultural field and a windbreak that runs north-south in the landscape. The windbreak in the center of this view is the approximate location of the proposed Beta Power Block.

Viewer Exposure: moderate. Because there is no landscape screening by landforms or vegetation, the proposed Project site is physically visible, but because of the flat topography and angle of view, visibility of the site is moderate. The proposed Project would contain vertical elements (solar troughs and the power block) that would be highly visible in the foreground from KOP-3. There are no recreational users on Roy Road, but for residents at these three rural residences, the duration of view would be extended. However, the number of viewers in this area is low. The flat viewing angle, foreground distance zone, relatively low number of viewers, and extended duration of view leads to a moderate viewer exposure rating.

Viewer Concern: high. People living in these three rural residences can be expected to have high concern for changes in their personal views of the adjoining landscape. While conducting this study, the visual analysts made no attempt to contact the residents who live in the vicinity of KOP-3 (or any viewers at the other KOPs-1 through 8). No scientific questionnaire was circulated to elicit concern levels of nearby residents concerning their attitudes toward possible changes within their landscape views. Because of the difficulty in inventorying for every individual's sensitivity level, it was determined that all residential viewers within 0.5 mile of the proposed Project (foreground distance zone) may have a high level of concern related to changes occurring in landscapes in the Project vicinity.

Visual Quality: low. There is no primary focal point in this landscape, and the flat horizontal land plain is devoid of distinguishing characteristics. Likewise, the horizon, several miles away, repeats the flat horizontal appearance. Black Mountain is out of view, to the left (north) of this view. Lynx Cat Mountain is barely visible on the right side of this view, to the southeast. There are no distinctive or interesting landform features, vegetative patterns, water features, or cultural (manmade) features in this view, leading to an overall low visual quality for the Project site.

Overall Visual Sensitivity: moderate. For residents traveling on Edie Road or living in the three rural residences in this vicinity and looking at the proposed Project site, and from KOP-3 specifically, the moderate viewer exposure, high viewer concern, and low visual

quality lead to a moderate overall visual sensitivity of the visual setting and viewing characteristics.

KOP-4 – Edie Road South of Lockhart Ranch Road

KOP-4 is located on Edie Road South of Lockhart Ranch Road near the driveway to a rural residence, looking east-southeast (see Figure 5.15-6a – Existing Visual Conditions at KOP-4, Edie Road South of Lockhart Ranch Road). This is the northern most residence that has a driveway connecting to Edie Road. The primary focal points in this landscape view are the driveway leading to the house and scattered outbuildings, with scattered evergreen trees around the homestead. The landform is completely flat in this area and vegetation is creosote bush scrub and grasses. An overhead distribution line for electricity and telephone is visible on the horizon, with several widely scattered wooden poles creating contrasting vertical elements in this otherwise horizontal landscape. In the center of this view, Lynx Cat Mountain forms a minor secondary focal point on the skyline. Beyond the fence line and distribution line with wooden posts (which is the property line for the proposed Project, about 0.25 miles away), there is a fallow agricultural field with a pivot wheel irrigation system (not visible from on-the-ground).

Viewer Exposure: moderate. Because there is no landscape screening by landforms or vegetation, the proposed Project site is physically visible, but because of the flat topography and angle of view, visibility of the site is moderate. The proposed Project would contain vertical elements (stands of solar troughs) that would be highly visible in the foreground from KOP-4. There are no recreational users on Edie Road, but for residents at the three rural residences along Edie Road, the duration of view would be extended. However, the number of viewers in this area is low. The flat viewing angle, foreground distance zone, relatively low number of viewers, and extended duration of view leads to a moderate viewer exposure rating.

Viewer Concern: high. People living in these three rural residences can be expected to have high concern for changes in their personal views of the adjoining landscape. Because of the difficulty in inventorying for every individual's sensitivity level, it was determined that all residential viewers within 0.5 mile of the proposed Project (foreground distance zone) may have a high level of concern related to changes occurring in landscapes in the Project vicinity.

Visual Quality: low. The primary focal point in this landscape is the driveway leading to a single family residence and scattered outbuildings. A secondary focal point is Lynx Cat Mountain on the horizon in the center of the view. There are no distinctive or interesting landform features, vegetative patterns, water features, or cultural (manmade) features in this view, leading to an overall low visual quality for the Project site.

Overall Visual Sensitivity: moderate. For residents traveling on Edie Road or living in the three rural residences in this vicinity and looking at the proposed Project site, and from KOP-4 specifically, the moderate viewer exposure, high viewer concern, and low visual quality lead to a moderate overall visual sensitivity of the visual setting and viewing characteristics.

KOP-5 – Lockhart Ranch Road East of Edie Road

KOP-5 is located on Lockhart Ranch Road East of Edie Road, just north of an existing rural residence, looking east along the dirt road (see Figure 5.15-7a – Existing Visual Conditions at KOP-5, Lockhart Ranch Road East of Edie Road). This is the view from the easternmost occupied residence on Lockhart Ranch Road, and as part of this residence, a travel trailer, fence, and trees are visible on the far right side of this photograph. In the center of the view, there is an abandoned rural residence that would be removed as part of the proposed Project. The landscape is predominantly flat with native desert vegetation of creosote bush scrub, sagebrush, and grasses. The only vertical lines are those created by the wooden distribution poles carrying electric and telephone lines that create a pattern of lines along the south side of the road. The dominant focal point in this landscape is the road itself, reinforced by the repetitive pattern of wooden utility poles on the right side of the road, leading the viewers' eyes to the flat horizon.

Viewer Exposure: moderate-to-high. Because there is no landscape screening by landforms or vegetation, the proposed Project site is very visible from KOP-5. The proposed Project would contain vertical and horizontal elements (chain link fence bordering a drainage channel, transmission line, and stands of solar troughs) that would be highly visible in the foreground from KOP-5. Recreational travelers use Lockhart Ranch Road to access Harper Dry Lake and the BLM watchable wildlife area, which is approximately 1.4 miles east of KOP-5. For the residents at this rural residence on Lockhart Ranch Road, the duration of view would be extended, but for travelers on Lockhart Ranch Road, duration of view would be brief. The number of viewers in this area is low. The high visibility, foreground distance zone, relatively low number of viewers, and extended duration of view for the residence leads to a moderate-to-high viewer exposure rating.

Viewer Concern: high. People traveling on Lockhart Ranch Road may have a moderate-to-high viewer concern. People living in this rural residence can be expected to have high concern for changes in their personal views of the adjoining landscape, especially if they are not involved with the Project. Because of the difficulty in inventorying for every individual's sensitivity level, it was determined that all residential viewers within 0.5 mile of the proposed Project (foreground distance zone) may have a high level of concern related to changes occurring in landscapes in the Project vicinity.

Visual Quality: low. The primary focal point in this landscape is Lockhart Ranch Road, which creates a strong linear feature leading into the distance. The pattern of vertical wooden poles carrying overhead utility lines reinforces this linear focal point. A secondary focal point is the abandoned rural residence and windbreak in the middleground at the center of this view. There are no distinctive or interesting landform features, vegetative patterns, water features, or cultural (manmade) features in this view, leading to an overall low visual quality for the Project site.

Overall Visual Sensitivity: moderate. For residents living on Lockhart Ranch Road and for recreationists traveling on Lockhart Ranch Road looking at the proposed Project site, and from KOP-5 specifically, the moderate-to-high viewer exposure, high viewer concern, and low visual quality lead to a moderate overall visual sensitivity of the visual setting and viewing characteristics.

KOP-6 – BLM Watchable Wildlife Area

KOP-6 is located at the BLM watchable wildlife area near the east end of Lockhart Ranch Road and on the south shore of Harper Dry Lake, looking south (see Figure 5.15-8a – Existing Visual Conditions at KOP-6, BLM Watchable Wildlife Area). This is the view from the gravel path and visitor information signage area; although when the visual analysts were on-site, all the information signage was missing. The primary focal points in this landscape are the covered BLM bulletin board (in the center of this photograph) and the vault toilet behind the parked car. These two architectural features are the strongest cultural (manmade) features in this flat desert plain landscape. Vegetation is native sagebrush and low-growing grasses. Wooden poles of the local electric/telephone distribution line form strong vertical lines in this horizontal landscape. In the distance and on the horizon, lattice steel towers of the existing 230-kV and 500-kV transmission lines are visible, creating minor focal points. The proposed Project site is fallow agricultural land with a pivot wheel irrigation system, which creates a circular pattern when viewed from the air, but is indistinguishable from on-the-ground. In This fallow agricultural field, on the right side of this photograph, there is a windbreak that runs north-south in the landscape. This windbreak is the approximate location of the proposed Beta Power Block.

Viewer Exposure: moderate-to-high. The proposed Project would be highly visible and less than 0.25 miles south of KOP-6, on private land just across Lockhart Ranch Road from the BLM watchable wildlife area, making this a foreground viewing distance. Visitors to this site are probably looking to the northeast, toward Harper Dry Lake, in order to see wild birds during rest stops on their migratory flights. Therefore, viewers' attention would not normally be focused to the south, toward the proposed Project site. Because there is no landscape screening by landforms or vegetation, the proposed Project would be highly visible from KOP-6. The number of viewers at the BLM watchable wildlife area is low, but for these viewers, the duration of view would be extended because of the pedestrian mode of travel, resulting in a moderate-to-moderate viewer exposure.

Viewer Concern: high. People visiting the BLM watchable wildlife area are expected to have high concern for the environment and visual quality, as they are at this area to enjoy nature and watch wildlife. No visitors were present during the visual analysts' on-site investigation, and no surveys of visitors were prepared for this visual analysis. However, viewer concern for landscape quality can be presumed to be high.

Visual Quality: low. The primary focal points in this landscape are the covered bulletin board and the vault toilet behind the parked car. These two architectural features are the strongest cultural (manmade) features in this flat desert plain landscape covered with native sagebrush and low-growing grasses. The strong horizontal line of the flat desert plain landform is interrupted only by scattered wooden poles and distant lattice steel towers of the existing 230-kV and 500-kV transmission lines. There are no distinctive or interesting landform features, vegetative patterns, water features, or cultural (manmade) features in this view, leading to an overall low visual quality for the Project site.

Overall Visual Sensitivity: moderate. For visitors to the BLM watchable wildlife area at the east end of Lockhart Ranch Road and for people looking at the proposed Project site from KOP-6, the moderate-to-high viewer exposure, high viewer concern, and low visual quality lead to a moderate overall visual sensitivity of the visual setting and viewing characteristics.

KOP-7 – BLM Watchable Wildlife Area

KOP-7 is also located at the BLM watchable wildlife area, but this time the view is looking west away from Harper Dry Lake and any migratory wildfowl (see Figure 5.15-9a – Existing Visual Conditions at KOP-7, BLM Watchable Wildlife Area). The primary focal point in this landscape is the flat desert plain of the landform, which is reinforced by the dark green evergreen windbreaks that form strong horizontal lines on this tan, grass covered landscape. A very minor focal point in this landscape is a short wooden 4x4 signpost in the center of this photograph, which is a BLM interpretive sign.

Viewer Exposure: moderate. The proposed Project would be highly visible to the west of KOP-7, on private land but visible from the BLM watchable wildlife area. The proposed Project site would extend from approximately 0.50 miles to three miles to the west, making this a middleground viewing distance. Visitors to this site are probably looking to the northeast, toward Harper Dry Lake, in order to see migratory waterfowl. As described for KOP-6, the number of viewers at the BLM watchable wildlife area is low, but for these viewers, the duration of view would be extended, and because of the middleground viewing distance, the resulting viewer exposure would be moderate.

Viewer Concern: high. As described for KOP-6, people visiting the BLM watchable wildlife area are expected to have high concern for the environment and visual quality, and viewer concern for landscape quality can be presumed to be high for KOP-6 and KOP-7.

Visual Quality: low. The primary focal point in this landscape is the flat desert plain and two evergreen windbreaks that accentuate the horizon. There are no distinctive or interesting landform features, vegetative patterns, water features, or cultural (manmade) features in this view, leading to an overall low visual quality for the Project site.

Overall Visual Sensitivity: moderate. For visitors to the BLM watchable wildlife area at the east end of Lockhart Ranch Road and for people looking at the proposed Project site from KOP-6, the moderate viewer exposure, high viewer concern, and low visual quality lead to a moderate overall visual sensitivity of the visual setting and viewing characteristics.

KOP-8 – Fossil Bed Road Near Black Canyon Road

KOP-8 is located on Fossil Bed Road near Black Canyon Road, looking southwest at the proposed Project site (see Figure 5.15-10a – Existing Visual Conditions at KOP-8, Fossil Bed Road near Black Canyon Road). KOP-8 is located on federal land administered by the BLM, at the intersection of two roads that circumscribe the southwest corner of Black Mountain Wilderness, which is situated northeast of KOP-8. This vantage point is approximately 5.67 miles to 7.83 miles northeast of the proposed Project site, making this a background viewing distance zone. The primary focal point of this landscape is the flat desert plain of the Mojave Desert, covered by scattered creosote bush scrub and grasses. This is the archetypal desert landscape.

Viewer Exposure: low. Because there is very little landscape screening by landforms or vegetation, the proposed Project site is physically visible, but because of the flat topography and angle of view, visibility of the site is moderate-to-low. The proposed Project would be barely visible in the background from KOP-8. There are occasional recreational users on both Fossil Bed Road and Black Canyon Road, but there are no rural residences anywhere in this vicinity because it is federal land. The duration of view would be brief on these roads and the number of viewers in this area is low. The flat viewing

angle, background distance zone, relatively low number of viewers, and brief duration of view leads to a low viewer exposure rating.

Viewer Concern: low. People traveling on these desert roads can be expected to have low concern for changes in the background landscape, five to eight miles away. For this visual analysis, it was determined that viewers at KOP-8 would have a low level of concern related to changes occurring in the background landscapes of the Project site.

Visual Quality: low. There is no primary focal point in this landscape, and the flat horizontal land plain is devoid of distinguishing characteristics. Black Mountain is out of view of this KOP, and would be visible if the viewer turned and looked to the northeast, instead of looking to the southwest. There are no distinctive or interesting landform features, vegetative patterns, water features, or cultural (manmade) features in this view, leading to an overall low visual quality for the Project site.

Overall Visual Sensitivity: low. For people driving on Fossil Bed Road near Black Canyon Road and looking at the proposed Project site five to eight miles away, and from KOP-8 specifically, the low viewer exposure, low viewer concern, and low visual quality lead to a low overall visual sensitivity of the visual setting and viewing characteristics.

5.15.4.4.7 Light and Glare

In the vicinity of the proposed Project, the only existing fixed light sources are found at the existing SEGS VIII and IX on Hoffman Road, just north of the proposed Project site, where lights are on at night for security and maintenance of the facility. Also, there are fixed light sources at approximately 10 rural residences and small farms that are located in the vicinity within one mile of the Project site (see Land Use Section 5.7). These fixed light sources tend to be typical high intensity "farm" lights mounted on moderately tall wooden poles. Additional fixed light sources are found at porch lights, interior lights in buildings. There are no existing public street lights within the proposed Project vicinity. Transitory nighttime light and glare is produced by headlights from moving vehicles. Analysis of potential light and glare impacts with regard to visual resources considers the following:

- Artificial sky glow: The brightening of the night sky attributable to human-created sources of light.
- Glare: Light that causes visual discomfort or disability or a loss of visual performance.
- Spill light: Light from a lighting installation that falls outside of the boundaries of the property on which the installation is sited.
- Light trespass: Spill light that because of quantitative, directional, or type of light causes annoyance, discomfort, or loss in visual performance and visibility.

There is nighttime sky glow from developed areas outside the immediate vicinity of the proposed Project. Specifically, the City of Barstow to the southeast, the development at Kramer Junction to the southwest produce nighttime sky glow. Outside the proposed Project site, there are scattered rural residences that have yard lights that also produce nighttime sky glow. Otherwise, the area is generally very dark after sunset. The current nighttime views are of high value.

5.15.5 Impacts

Section 5.15.5 describes and evaluates the landscape changes that would be associated with the construction and operation of the Mojave Solar Project, as seen from various on-the-ground vantage points.

5.15.5.1 Impact Assessment Methodology

The Project would be situated on private lands under the jurisdiction of San Bernardino County. Because the proposed Project site is not on federal or State lands, there are no BLM Visual Resource Management (VRM) Classes, or Forest Service Visual Quality Objectives (VQOs) or Scenic Integrity Objectives (SIOs), or other Visual Management Classes (VMCs) for the Project site. Therefore, this visual analysis used the Visual Sensitivity/Visual Change (VSVC) method to assess the visual effects on existing landscapes. The VSVC criteria were ascertained from the San Bernardino County General Plan which has criteria for visual resource management (see Section 5.15.2 for LORS).

As explained above, the visual resource analysis included a combination of information review, agency consultation, field reconnaissance, analysis of aerial photographs and topographic maps, on-site photography, data mapping, computerized visual simulation, and data evaluation. On-the-ground observer positions were analyzed for their potential to display worst-case visual effects of the Project to the landscape. From all potential view points, eight locations were selected as Key Observation Points (KOPs) for detailed analysis of the proposed Project.

At each KOP, photographs were taken with a Canon-50D digital camera equipped with a zoom lens set at a "normal view," thereby eliminating distortion. For comparison to this "normal lens," a wide angle lens makes background features appear unrealistically small and further away, while a telephoto lens makes background features appear unrealistically larger and closer in the photograph. The normal lens makes all landscape features appear in their proper perspective and size, relative to each other. When printed on 8½ by 11 inch-paper, each photograph appears "life-size" when held approximately 10-inches from the eye, as viewed from on the ground at the exact KOP location. From among the various photographs taken at each KOP, the best exposure and composition was selected to represent the view. Computerized visual simulations were prepared using AutoCAD and 3D-Studio Max software to create accurate, computerized depictions showing the visual effects of the Project. In Section 5.15.4, Affected Environment, above, the existing visual conditions are described in detail for each KOP. Using the computerized visual simulations, predicted future visual effects of the Project for each KOP are described in this section, Impacts and Mitigation.

Visual Sensitivity/Visual Change Components

The VSVC methodology used to analyze the Project included a characterization of the visual sensitivity of existing landscapes and the characteristics of existing visual changes apparent in the landscape. At each KOP, existing conditions of the landscape and viewing circumstances were described in Section 5.15.4.4.6 Key Observation Points (KOPs), leading to a conclusion about the viewpoint's overall visual sensitivity.

Visual sensitivity consists of three components: viewer exposure, viewer concern, and visual quality. Viewer exposure affects a landscape's overall visual sensitivity. Landscapes

that have very low viewer exposure (based on landscape visibility, the viewing distance, the number of people who view the landscape, or the duration of time that the landscape can be viewed) would tend to be less sensitive to overall visual change in the context of human experience of visual impacts. Landscapes with higher viewer exposure are more sensitive to overall visual changes. Viewer concern can be described as the expectations for the landscape that are held by the viewing public. Viewer concern is often reflected in public policy documents that identify landscapes of special concern (vista points or ridgeline protection ordinances), or roadways with special scenic status (scenic highways) or trails with special scenic status (Pacific Crest National Scenic Trail). The description of visual quality notes the natural scenic attractiveness of the landscape, existing built structures, and unique landscape features that contribute to overall visual quality.

Project-induced visual change was determined for each KOP based on field studies of anticipated visual contrast, Project dominance, and the potential for view impairment of higher quality landscape features. Project-induced visual change can result from aboveground facilities, vegetation removal, landform modification, component size or scale relative to existing landscape characteristics, and the placement of Project components relative to existing developed features. The experience of visual change can also be affected by the degree of available screening by vegetation, landforms, and existing structures; distance from the observers; atmospheric conditions; and angle of view.

Computerized visual simulations were prepared to aid in the assessment of visual change and overall impact significance, which was determined by evaluating the extent of visual change in the context of the existing visual sensitivity.

Visual impact significance is a function of two factors: overall Visual Sensitivity and extent of Visual Change. Table 5.15-9 illustrates the general relationship between visual sensitivity and visual change. This table was used primarily as a consistency check between individual KOP evaluations. Determinations of visual sensitivity and visual change were based primarily on the visual analysts' professional experience and site-specific circumstances.

The relationships presented in Table 5.15-9 are intended as a guide only, recognizing that site-specific circumstances may warrant a different conclusion. However, it is reasonable to conclude that lower visual sensitivity ratings combined with lower visual change ratings will generally correlate well with lower degrees of impact significance when viewed on-site. Conversely, higher visual sensitivity ratings combined with higher visual change ratings will tend to result in higher degrees of visual impact occurring at the site.

Implicit in this rating methodology is the acknowledgment that for a visual impact to be considered significant two conditions generally exist: (1) the existing landscape is of reasonably high quality and is relatively valued by viewers; and (2) the perceived incompatibility of one or more elements or characteristics of the Project tends toward the high extreme, leading to a substantial reduction in visual quality.

Table 5.15-9. General Guidance for Review of Visual Impact Significance

Visual Sensitivity	Visual Change				
	Low	Low to Moderate	Moderate	Moderate to High	High
Low	Not Significant ¹	Not Significant	Altered but Not Significant ²	Altered but Not Significant	Altered but Not Significant
Low to Moderate	Not Significant	Altered but Not Significant	Altered but Not Significant	Altered but Not Significant	Less Than Significant with Design Features Incorporated ³
Moderate	Altered but Not Significant	Altered but Not Significant	Altered but Not Significant	Less Than Significant with Design Features Incorporated	Less Than Significant with Design Features Incorporated
Moderate to High	Altered but Not Significant	Altered but Not Significant	Less Than Significant with Design Features Incorporated	Less Than Significant with Design Features Incorporated	Significant ⁴
High	Altered but Not Significant	Less Than Significant with Design Features Incorporated	Less Than Significant with Design Features Incorporated	Significant ⁴	Significant

¹ Not Significant – Impacts may or may not be perceptible but are considered minor in the context of existing landscape characteristics and view opportunity.

² Altered but Not Significant – Impacts are perceived but do not exceed environmental thresholds.

³ Less Than Significant with Design Features Incorporated – Impacts are perceived as negative and may exceed environmental thresholds depending on project and site-specific circumstances, but are Less Than Significant with Design Features Incorporated.

⁴ Significant – Visual impacts would exceed environmental thresholds, and would require mitigation measures to reduce impacts to less than significant.

5.15.5.2 Thresholds of Significance

The San Bernardino County Initial Study Environmental Checklist Form follows the direction given in Appendix G of the California Code of Regulations for assessing aesthetic impacts. The County Initial Study Environmental Checklist Form states that a project would normally be considered to have a significant impact on the aesthetic (visual) environment if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of a site and its surroundings; or
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. (San Bernardino County. 2009e)

5.15.5.3 Project Impacts

Assessment of the likely visual impacts that would occur as a result of the proposed Project was accomplished by 1) analyzing the entire Project area, and 2) establishing representative KOPs from which to conduct a detailed analysis of the Project's physical impacts on the visual environment. In this Project Impacts Section, future visual effects of the Project were predicted for each KOP by using computerized visual simulations. At the end of Section 5.15, the reader will find "life-size" pairs of before and after photographs and simulations. The following section provides a discussion of the impacts identified for the Proposed Project, and an analysis of visual effects at each KOP.

5.15.5.3.1 Impact VR-1: Have a Substantial Adverse Effect on a Scenic Vista

NO IMPACT. There is no national, state, or county designated scenic vista in the Project area or the Project vicinity; therefore, the Project would not cause a significant impact under this criterion. (Below, under *Impact 5.15-3 [Substantially Alter or Degrade the Existing Visual Character or Quality of the Proposed Project Site and Its Surroundings]* the visual impacts from eight selected KOPs are described.)

5.15.5.3.2 Impact VR-2: Substantially Damage Scenic Resources, Including, But Not Limited to, Trees, Rock Outcroppings, and Historic Buildings Within a State Scenic Highway

NO IMPACT. The proposed Mojave Solar Project would not damage any existing scenic resources of any designated or eligible State Scenic Highway. The only eligible scenic highway in the vicinity is SR 58 west of Barstow (from Barstow to Mojave), and the proposed Project is not situated in the viewshed of this eligible State scenic highway.

5.15.5.3.3 Impact VR-3: Substantially Degrade the Existing Visual Character or Quality of a Site and Its Surroundings

The existing visual character and quality of the proposed Project site is based primarily on its flat topography, which is an archetypal example of the Mojave Desert, with the exception of the previous removal of typical desert vegetation and replacement with

agricultural fields. The existing visual environment of the Project site would be altered to accommodate the construction and operation of the Mojave Solar Project, but would not be substantially degraded.

5.15.5.3.3.1 Visual Impacts to Overall Project Area

The existing open space landscape character of fallow agricultural lands at the proposed Project site would be modified into a commercial-scale Solar Energy Generation Systems (SEGS) facility, and this would alter the existing landscape character of the Project site as seen from the surrounding vicinity. However, this alteration would not substantially degrade the existing visual character or quality of the site and its surroundings.

Project elements that possess the potential to alter the existing visual character or quality of the proposed Project site are described in Section 5.15.3 Visual Characteristics of Proposed Project. Construction of the proposed Project would also require the following Project features: clearing and grading required for earthwork terraces, paving of existing roads (portions of Harper Lake Road and Lockhart Ranch Road), laydown areas, and construction of drainage channels and ponds. Because of the size of the Project area (1,765 acres) and configuration of the solar troughs and power islands, these various Project elements would be clearly evident and would alter the landscape from viewpoints described in Section 5.15.4.4.6 Key Observation Points (KOPs), above. Direct visual impacts associated with the Project would be changes from the current open views of fallow agricultural fields to views of a commercial-scale solar farm as seen from the Key Observation Points described in Section 5.15.4.4.6. These visual impacts would not be considered significant because existing visual character and quality of the site and its surroundings would be altered to accommodate the construction and operation of the Mojave Solar Project, but would not be substantially degraded. There are no indirect impacts to visual resources that would occur because of the construction or operation of the proposed Mojave Solar Project.

5.15.5.3.3.2 Visual Impacts at Specific KOPs

There are several local public roads, less than one dozen single-family rural residences, and one BLM wildlife-viewing area from which the public could view the proposed Project. These viewpoints are described in Section 5.15.4, Affected Environment. The Project would result in direct visual quality changes and would have direct effects on views toward the Project Area. Direct visual impacts as seen from the eight key observation points are discussed below.

KOP-1 – Harper Lake Road Near Phoenix Road

KOP-1 is located on Harper Lake Road near Phoenix Road. KOP-1 is located approximately 0.25-miles north of Phoenix Road, and from this vantage point, the proposed Project would be physically visible, with the Alpha power island being the most distinguishable feature. However, because of the flat terrain, intervening undulations in the landforms of the flat desert plain, and the nearly flat viewing angle, the Project would be barely visible (see Figure 5.15-3b –Visual Simulation at KOP-1, Harper Lake Road Near Phoenix Road).

Visual Contrast: low. The proposed Project would blend in with the flat terrain of the existing agricultural fields from this distance (middleground). Both the Alpha and Beta solar troughs would be visible at a very flat angle of view. The proposed Project would create low visual contrast as seen from KOP-1.

Project Dominance: low. Because the proposed Project would be seen at middleground distances from KOP-1 on Harper Lake Road, and because the existing site is flat and only the Alpha power island would be visible in this view, the proposed Project would not dominate this view. Project dominance would be low as seen from KOP-1.

View Impairment: low. As seen from KOP-1, the proposed Project would fit into the landscape and would not impair any views to the surrounding or backdrop landscape. The Project would create no view impairment of the skyline or surrounding landscape scenery, leading to a low rating of view impairment.

Overall Visual Change: low. Based on low visual contrast, low Project dominance, and low view impairment, the overall visual change at KOP-1 would be low.

Visual Sensitivity/Visual Change: not significant. Referring to Table 5.15-9, General Guidance for Review of Visual Impact Significance, the overall visual change seen from KOP-1 at Harper Lake Road would be low and in the context of the existing landscape's low visual sensitivity (see Section 5.15.4.4.6 Key Observation Points); the resulting visual impact is determined to be Not Significant.

KOP-2 – Harper Lake Road South of Roy Road

KOP-2 is located on Harper Lake Road South of Roy Road, heading northbound. KOP-2 is approximately two miles north of KOP-1. At this point on Harper Lake Road, there are several single family residences in this vicinity. On the Project site, an existing abandoned farm building on the left (west) side of the road would be replaced by the proposed Alpha power island, which would be visible straight ahead of KOP-2, and located on the right (east) side of Harper Lake Road. Solar troughs of the Alpha Plant would be visible on both west and east sides of the road, but would be located on flat terraces that limit their visual magnitude. The proposed Project site is approximately 0.75 miles away from KOP-2, making this a middleground viewing distance (see Figure 5.15-4b –Visual Simulation at KOP-2, Harper Lake Road South of Roy Road).

Visual Contrast: low. As seen from KOP-2, the proposed Project would blend in with the flat terrain of the existing agricultural fields from this viewing distance (middleground). Only the Alpha solar troughs would be visible from KOP-2, but at a very flat angle of view, thereby reducing the visual contrast. The proposed Project would create low visual contrast as seen from KOP-2.

Project Dominance: low. Because the proposed Project would be seen at middleground distances from KOP-2 on Harper Lake Road, and because the existing site is flat and the Alpha power island would be visible but would basically replace an existing agricultural building in this view, the proposed Project would not dominate this view. Project dominance would be low as seen from KOP-2.

View Impairment: low. As seen from KOP-2, the proposed Project would fit into the landscape and would not impair any views to the surrounding or backdrop landscape. The Alpha power island would not block or impair views to any unique landscape element in the background, leading to a low rating of view impairment.

Overall Visual Change: low. Based on low visual contrast, low Project dominance, and low view impairment, the overall visual change at KOP-2 would be low.

Visual Sensitivity/Visual Change: not significant. Referring to Table 5.15-9, General Guidance for Review of Visual Impact Significance, the overall visual change seen from KOP-2 at Harper Lake Road would be low and in the context of the existing landscape's low visual sensitivity, the resulting visual impact is determined to be Not Significant.

KOP-3 – Roy Road, East of Edie Road

KOP-3 is located on Roy Road, east of Edie Road, looking east-northeast toward the Beta power island. There are three rural residences along Roy Road in this vicinity, and the proposed Project site is less than 0.25-miles east of KOP-3, making this a foreground view. The existing windbreak in the center of this view is the approximate location of the proposed Beta Power Block (see Figure 5.15-5b –Visual Simulation at KOP-3, Roy Road East of Edie Road). Arrays of solar troughs would be visible in the foreground and middleground viewing distances from KOP-3, and the perimeter chain link fence would be visible. A drainage channel would be constructed inside the chain link fence, but because of its depth and distance away from the viewer, would not be visible from KOP-3. The Beta power island would be visible, but would remain below the height of the skyline in the background.

Visual Contrast: high. As seen from KOP-3 on the Roy Road, the proposed Project would be visible in the foreground and middleground as seen from this vantage point and from the nearby rural residences. Because there is no topographic or vegetative screening for the proposed Project, visual contrast would be high.

Project Dominance: high. The proposed Project would be very visible from KOP-3 and the nearby rural residences and would create a new focal point in the landscape. The proposed Project would have high visual dominance as seen from KOP-3.

View Impairment: low-to-moderate. Because of the horizontal nature of the proposed Project's solar troughs, the distance from KOP-3 to the Beta power island, and the fact that the power island does not extend above the skyline in the background, as illustrated in the simulation of KOP-3, view impairment to surrounding landscape features would be low-to-moderate.

Overall Visual Change: moderate-to-high. Based on high visual contrast, high Project dominance, and low-to-moderate view impairment, the overall visual change at KOP-3 on Roy Road would be moderate-to-high.

Visual Sensitivity/Visual Change: less than significant with Project design features incorporated. Referring to Table 5.15-9, General Guidance for Review of Visual Impact Significance, the overall visual change seen from KOP-3 and in this vicinity of rural residences would be moderate-to-high and in the context of the existing landscape's

moderate visual sensitivity, the resulting visual impact would be less than significant with Project design features incorporated.

KOP-4 – Edie Road South of Lockhart Ranch Road

KOP-4 is located on Edie Road South of Lockhart Ranch Road near the driveway to a rural residence, looking east-southeast. This is the northern most of three residences that have driveways connecting to Edie Road, and is typical of their views to the proposed Project site. In the center of this view, Lynx Cat Mountain forms a minor secondary focal point on the skyline. Beyond the fence line and distribution line with wooden posts (which is the property line for the proposed Project, about 0.25 miles away), there would be a chain link perimeter fence and solar troughs of the Beta Plant, visible in the foreground. The top of the Beta power island would be barely visible in the middleground as seen from KOP-4, mostly screened from view by the solar troughs and existing vegetation at this farmstead. Residents along Edie Road would have unobstructed views to the proposed Project features (see Figure 5.15-6b –Visual Simulation at KOP-4, Edie Road South of Lockhart Ranch Road).

Visual Contrast: moderate-to-high. The proposed Project would be visually evident from KOP-4, although they would be further away from KOP-4 than from KOP-3, thereby reducing their visual magnitude. As shown in the simulation, new solar troughs would be visible in the foreground along the existing fence line and would extend into the middleground along the left (north) side of the photograph. As seen from KOP-4, the proposed Project would have moderate-to-high visual contrast.

Project Dominance: high. The proposed Project would be very visible from KOP-4 and the nearby rural residences and would create a new focal point in the landscape. The proposed Project would have high visual dominance as seen from KOP-4.

View Impairment: moderate-to-high. Even with the horizontal nature of the proposed Project's solar troughs, the skyline at the horizon and portions of Lynx Cat Mountain would be obstructed from view as seen from KOP-4. Additionally, the Beta power island would screen part of Lynx Cat Mountain from view, as illustrated in the simulation of KOP-4; therefore, view impairment to surrounding landscape features would be moderate-to-high.

Overall Visual Change: moderate-to-high. Based on moderate-to-high visual contrast, high Project dominance, and moderate-to-high view impairment, the overall visual change at KOP-4 on Edie Road would be moderate-to-high.

Visual Sensitivity/Visual Change: less than significant with Project design features incorporated. Referring to Table 5.15-9, General Guidance for Review of Visual Impact Significance, the overall visual change seen from KOP-4 and in this vicinity of rural residences would be moderate-to-high and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be less than significant with Project design features incorporated.

KOP-5 – Lockhart Ranch Road East of Edie Road

KOP-5 is located on Lockhart Ranch Road, east of Edie Road, just north of an existing rural residence, looking east along the dirt road. This is the view from the easternmost occupied

residence on Lockhart Ranch Road, and as part of this residence, a travel trailer, fence, and trees are visible on the far right side of this photograph. In the center of the view, there is an abandoned rural residence that would be removed and replaced with a drainage channel, transmission line, and solar troughs as part of the proposed Project. Because there is no landscape screening by landforms or vegetation, the proposed Project would be very visible from KOP-5, from this residence on Lockhart Ranch Road, and for people traveling to the BLM watchable wildlife area. The proposed Project would contain vertical and horizontal elements (chain link fence bordering a drainage channel, transmission line, and stands of solar troughs) that would be highly visible in the foreground from KOP-5 (see Figure 5.15-7b – Visual Simulation at KOP-5, Lockhart Ranch Road East of Edie Road). Further east along Lockhart Ranch Road (in the middleground of this view), solar troughs would be visible on both the left and right side of the road.

Visual Contrast: high. The proposed Project would be very visually evident from KOP-5, and it would be directly across the street from this rural residence, thereby increasing the visual magnitude of the Project. As shown in the simulation, a new perimeter chain link fence, drainage channel, transmission line, and solar troughs would be very visible in the foreground along Lockhart Ranch Road and would extend into the middleground along the road. As seen from KOP-5, the proposed Project would have high visual contrast.

Project Dominance: high. The proposed Project would be very visible from KOP-5 and the nearby rural residence and would attract attention and create a new focal point in the landscape. The proposed Project would have high visual dominance as seen from KOP-5.

View Impairment: moderate-to-high. Even with the relatively short stature of the proposed Project's chain link fence and solar troughs, the skyline at the horizon would be obstructed from view as seen from KOP-5; however, this obstruction would be less noticeable as seen from the lane of travel. The camera position shows a vantage point that would not normally be seen from either the rural residence or travelers on Lockhart Ranch Road, as illustrated in the simulation of KOP-5. Therefore, view impairment to surrounding landscape features would actually be moderate-to-high.

Overall Visual Change: moderate-to-high. Based on high visual contrast, high Project dominance, and moderate-to-high view impairment, the overall visual change at KOP-5 on Lockhart Ranch Road would be high.

Visual Sensitivity/Visual Change: less than significant with Project design features incorporated. Referring to Table 5.15-9, General Guidance for Review of Visual Impact Significance, the overall visual change seen from KOP-5 would be high and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be less than significant with Project design features incorporated.

KOP-6 – BLM Watchable Wildlife Area

KOP-6 is located at the BLM watchable wildlife area near the east end of Lockhart Ranch Road and on the south shore of Harper Dry Lake, looking south. From this gravel path and visitor information signage area, the proposed Project, located on the south side of Lockhart Ranch Road, would be visible beyond the covered BLM bulletin board (in the center of this photograph) and the vault toilet behind the parked car (see Figure 5.15-8b –

Visual Simulation at KOP-6, BLM Watchable Wildlife Area). The view would be looking south, down the solar troughs, giving a unique view of these troughs as they articulate to follow the sun. The existing windbreak that is visible on the right side of this view would be replaced with the Beta power island. The lower portion of the existing lattice steel towers on the horizon (existing 230-kV and 500-kV transmission lines) would be screened from view by the solar troughs and the power island. The proposed Project would be highly visible and less than 0.25 miles south of KOP-6, making this a foreground view from the BLM watchable wildlife area. Viewers' attention would not normally be focused to the south, toward the proposed Project site, but to the lake bed and wildlife.

Visual Contrast: moderate-to-high. The proposed Project would be very visually evident from KOP-6 at the BLM watchable wildlife area. As shown in the simulation, the arrays of solar troughs would be very visible in the foreground across Lockhart Ranch Road and would extend into the middleground toward the existing transmission lines. As seen from KOP-6, the proposed Project would have moderate-to-high visual contrast.

Project Dominance: high. The proposed Project would be very visible from KOP-6 and the BLM watchable wildlife area and would attract attention and create a new focal point in the landscape. The proposed Project would have high visual dominance as seen from KOP-6.

View Impairment: low. The existing view to the south from the BLM area shows a flat desert plain extending to the horizon, punctuated by vertical lattice steel towers of two existing transmission lines. The proposed Project would replace this view with taller, horizontal arrays of solar troughs. The skyline at the horizon would be slightly obstructed from view as seen from KOP-6, as illustrated in the simulation of KOP-6. Therefore, view impairment to surrounding landscape features would be low.

Overall Visual Change: moderate. Based on moderate-to-high visual contrast, high Project dominance, and low view impairment, the overall visual change at KOP-6 at the BLM watchable wildlife area would be moderate.

Visual Sensitivity/Visual Change: altered but not significant. Referring to Table 5.15-9, General Guidance for Review of Visual Impact Significance, the overall visual change seen from KOP-6 would be moderate and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be altered but not significant.

KOP-7 – BLM Watchable Wildlife Area

KOP-7 is also located at the BLM watchable wildlife area, but this time the view is looking west toward the proposed Project site and away from Harper Dry Lake and any migratory wildfowl (see Figure 5.15-9b – Visual Simulation at KOP-7, BLM Watchable Wildlife Area). The existing dark green evergreen windbreaks would be replaced with solar troughs, and on the far right side of this view, two solar collector assembly buildings would be visible. The Alpha power island would be visible in the center of this view, but it would be located approximately two miles away, in the middleground. The proposed Project would be highly visible to the west of KOP-7, on private land but visible from the BLM watchable wildlife area. The proposed Project site would extend from approximately 0.50 miles to three miles to the west, making this a middleground viewing distance.

Visual Contrast: moderate-to-high. The proposed Project would be very visually evident from KOP-7 at the BLM watchable wildlife area. As shown in the simulation, the arrays of solar troughs would be less visible looking west than they are when looking south, as shown for KOP-6. As seen from KOP-7, because of the height of new buildings and the power island, the proposed Project would have moderate-to-high visual contrast.

Project Dominance: moderate. The proposed Project would be visible from KOP-7 and the BLM watchable wildlife area and would attract attention and create new focal points in the landscape, but because of the distance to the proposed Project, it would have moderate visual dominance as seen from KOP-7.

View Impairment: low. The existing view at KOP-7, to the west from the BLM area, shows a flat desert plain extending to the horizon, punctuated only by existing windbreaks. The proposed Project would replace these windbreaks with horizontal arrays of solar troughs. The skyline at the horizon would be slightly obstructed from view by the Alpha power island and solar collector assembly buildings, as illustrated in the simulation of KOP-7. Therefore, view impairment to surrounding landscape features would be low.

Overall Visual Change: moderate. Based on moderate-to-high visual contrast, moderate Project dominance, and low view impairment, the overall visual change at KOP-7 at the BLM watchable wildlife area would be moderate.

Visual Sensitivity/Visual Change: altered but not significant. Referring to Table 5.15-9, General Guidance for Review of Visual Impact Significance, the overall visual change seen from KOP-7 would be moderate and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be altered but not significant.

KOP-8 – Fossil Bed Road Near Black Canyon Road

KOP-8 is located on Fossil Bed Road near Black Canyon Road, looking southwest at the proposed Project site (see Figure 5.15-10b – Visual Simulation at KOP-8, Fossil Bed Road Near Black Canyon Road). KOP-8 is located on federal land administered by the BLM, at the intersection of two roads that circumscribe the southwest corner of Black Mountain Wilderness, which is situated northeast of KOP-8. This vantage point is approximately 5.67 miles to 7.83 miles northeast of the proposed Project site, making this a background viewing distance zone. The primary focal point of this landscape is the flat desert plain of the Mojave Desert, covered by scattered creosote bush scrub and grasses. This is the archetypal desert landscape. Because there is very little landscape screening by landforms or vegetation, the proposed Project would be physically visible, but because of the background distances, flat topography and flat angle of view, the proposed Project would be barely visible in the background from KOP-8. As noted previously, there are occasional recreational users on both Fossil Bed Road and Black Canyon Road, but there are no rural residences anywhere in this vicinity because this is federal land administered by the BLM.

Visual Contrast: low. The proposed Project would blend in with the flat terrain of the existing landscape as seen from this distance (background). Both the Alpha and Beta power islands would be slightly visible at these distances. The proposed Project would create low visual contrast as seen from KOP-8.

Project Dominance: low. Because the proposed Project would be seen at background distances from KOP-8 on Fossil Bed Road near Black Canyon Road, the proposed Project would not dominate this view. Project dominance would be low as seen from KOP-8.

View Impairment: low. As seen from KOP-8, the proposed Project would fit into the landscape and would not impair any views to the surrounding landscape or the horizon, leading to a low rating of view impairment.

Overall Visual Change: low. Based on low visual contrast, low Project dominance, and low view impairment, the overall visual change at KOP-8 would be low.

Visual Sensitivity/Visual Change: not significant. Referring to Table 5.15-9, General Guidance for Review of Visual Impact Significance, the overall visual change seen from KOP-8 at Fossil Bed Road near Black Canyon Road would be low and in the context of the existing landscape's low visual sensitivity (see Section 5.15.4.4.6 Key Observation Points); the resulting visual impact is determined to be Not Significant.

5.15.5.3.4 Impact VR-4: Create a New Source of Substantial Light or Glare That Would Adversely Affect Day or Nighttime Views in the Area

As described in Section 2.0, Project Description, the proposed Project's lighting system would provide operations and maintenance personnel with illumination in both normal and emergency conditions. The system would consist primarily of AC lighting, but would include DC lighting for activities or emergency egress required during an outage of the plant's AC electrical system. The lighting system would also provide AC convenience outlets for portable lamps and tools. Lighting would be designed to provide the minimum illumination needed to achieve safety and security objectives and would be shielded and oriented to focus illumination on the desired areas and minimize additional nighttime illumination in the site vicinity.

The only existing fixed light sources in the vicinity of the proposed Project are found at the existing SEGS VIII and IX on Hoffman Road, just north of the proposed Project site, where lights are on at night for security and maintenance of the facility. Also, there are fixed light sources at approximately 10 rural residences and small farms that are located in the vicinity within one mile of the Project site (see Land Use Section 5.7).

The proposed Project's lighting system would be shielded, oriented inward toward the site, and therefore, would not create significant additional light and glare impacts as compared to existing conditions. The criteria for light and glare, first discussed in Section 5.15.4.4.7 above, are listed again in Table 5.15-10 below, with discussion of conformity of the proposed Project with these criteria.

Table 5.15-10. Conformity of Mojave Solar Project with Light and Glare Criteria

Criteria	Definition	Conformity
Artificial sky glow	The brightening of the night sky attributable to human-created sources of light.	This factor is normally attributable to artificial lighting sources in urbanized areas and is not

		expected to become a factor with the proposed Project. The proposed Project would comply with County Ordinance 3900 by design of light fixtures and placement of light sources. The Project would have directional lighting, lenses, and shields to minimize light trespass, light spill, and sky glow.
Glare	Light that causes visual discomfort or disability or a loss of visual performance.	This factor is normally attributable to highly reflective objects or intense artificial lighting sources and is not expected to become a factor with the proposed Project.
Spill light	Light from a lighting installation that falls outside of the boundaries of the property on which the installation is sited.	This factor is normally attributable to artificial lighting sources such as yard lights in rural areas, as well as urbanized areas. Spill light could occur at the proposed Project boundaries, although the Project design includes directional lighting, lenses, and shields to minimize light trespass, light spill, and sky glow.
Light trespass	Spill light that because of quantitative, directional, or type of light causes annoyance, discomfort, or loss in visual performance and visibility.	This factor is normally attributable to artificial lighting sources such as yard lights in rural areas, as well as urbanized areas. Light trespass could occur at the proposed Project boundaries, although the Project design includes directional lighting, lenses, and shields to minimize light trespass, light spill, and sky glow.

Based on analysis of the Project Description and the Project site and vicinity, it was determined that specific design features incorporated into the overall Project design would be effective in reducing Project-wide visual impacts and specific visual impacts at eight KOPs to a less than significant level.

5.15.6 Cumulative Visual Impacts

5.15.6.1 Geographic Extent

The geographic extent of the cumulative visual impacts analysis is the same as the extent of the proposed Project analysis, and that extent is the viewsheds from which the proposed Project might be seen, including foreground, middleground, and background viewing distances. In accord with BLM standards, the visibility analysis and viewshed analysis was limited to a radius of 15 miles from the proposed Project power islands.

5.15.6.2 Existing Cumulative Conditions

In the vicinity of the proposed Project, there are many past Projects and activities that have modified the landscape and changed the natural landscape character. Some of these past activities have altered the natural-appearing landscape character and visual quality, including a grid pattern of roads following section-lines, SEGS VIII and IX, scattered rural/agricultural developments, 230-kV and 500-kV transmission lines, Agricultural developments in the vicinity include irrigated and dry-crop farming, and irrigated fields have introduced lush green landscapes into the otherwise dry, relatively barren desert environment that was previously covered by saltbush scrub and/or creosote bush scrub.

5.15.6.3 Existing Plus Project Cumulative Conditions

The proposed Project would combine with the existing SEGS VIII and IX facility, which is situated 0.25 miles north of the Alpha Plant, and cumulative visual impacts would be less than significant. As described in Section 5.1 there are no other proposed projects within the viewshed of the Mojave Solar Project, and therefore, there are no visual impacts of other proposed projects that would combine with the visual impacts of the proposed Project to create significant cumulative visual impacts. Therefore, the proposed Project plus existing and cumulative projects would have less than significant visual impacts.

5.15.7 Mitigation Measures

The proposed Mojave Solar Project design inherently includes features that will mitigate visual impacts. Because of these design features and elements, there would be no significant visual impacts, as explained above. Therefore, no aesthetics or visual resource mitigation measures would be required for the Mojave Solar Project and visual impacts would be less than significant.

5.15.7.1 Level of Significance With Project Design Features

Impact VR-1: Have a substantial adverse effect on a scenic vista: **NO IMPACT.**

Impact VR -2: Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway: **NO IMPACT.**

Impact VR -3: Substantially degrade the existing visual character or quality of the site and its surroundings:

Change in Existing Visual Character or Quality of KOP-1 – Harper Lake Road Near Phoenix Road:

Not Significant. The overall visual change seen from KOP-1 at Harper Lake Road would be low and in the context of the existing landscape's low visual sensitivity, the resulting visual impact would be not significant.

Change in Existing Visual Character or Quality of KOP-2 – Harper Lake Road South of Roy Road:

Not Significant. The overall visual change seen from KOP-2 at Harper Lake Road would be low and in the context of the existing landscape's low visual sensitivity, the resulting visual impact would be not significant.

Change in Existing Visual Character or Quality of KOP-3 – Roy Road, East of Edie Road:

Less than significant with Project design features incorporated. The overall visual change seen from KOP-3 and in this vicinity of rural residences would be moderate-to-high and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be less than significant with Project design features incorporated.

Change in Existing Visual Character or Quality of KOP-4 – Edie Road South of Lockhart Ranch Road:

Less than significant with Project design features incorporated. The overall visual change seen from KOP-4 and in this vicinity of rural residences would be moderate-to-high and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be less than significant with Project design features incorporated.

Change in Existing Visual Character or Quality of KOP-5 – Lockhart Ranch Road East of Edie Road:

Less than significant with Project design features incorporated. The overall visual change seen from KOP-5 would be high and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be less than significant with Project design features incorporated.

Change in Existing Visual Character or Quality of KOP-6 – BLM Watchable Wildlife Area:

Altered but not significant. The overall visual change seen from KOP-6 would be moderate and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be altered but not significant.

Change in Existing Visual Character or Quality of KOP-7 – BLM Watchable Wildlife Area:

Altered but not significant. The overall visual change seen from KOP-7 would be moderate and in the context of the existing landscape's moderate visual sensitivity, the resulting visual impact would be altered but not significant.

Change in Existing Visual Character or Quality of KOP-8 – Fossil Bed Road Near Black Canyon Road:

Not Significant. The overall visual change seen from KOP-8 at Fossil Bed Road near Black Canyon Road would be low and in the context of the existing landscape's low visual sensitivity, the resulting visual impact would be not significant.

Impact VR -4: Create a New Source of Substantial Light or Glare That Would Adversely Affect Day or Nighttime Views in the Area: LESS THAN SIGNIFICANT. There are design features built into the Project that will be implemented to improve the nighttime visual environment while still constructing, operating, and maintaining the proposed Project and therefore, visual resource impacts of light and glare would be less than significant.

The visual analysis of Project-wide visual impacts plus the detailed analysis of the proposed Project as illustrated in eight simulations have been thoroughly documented. The results of this visual analysis, recommended visual resource mitigation measures, and the effectiveness of these mitigation measures are summarized in Table 5.15-11. Impact and Mitigation Summary for Visual Resources, below.

Table 5.15-11. Impact Summary for Visual Resources

KOP	Location	Visual Impact Significance ¹	Design Features of Proposed Project	Level of Significance With Design Features ²
1	Harper Lake Road Near Phoenix Road	Not Significant	None	Not Significant
2	Harper Lake Road South of Roy Road	Not Significant	None	Not Significant
3	Roy Road, East of Edie Road	Less Than Significant with Project design features incorporated	1, 2, 3, 4, 5, 6	Less Than Significant
4	Edie Road South of Lockhart Ranch Road	Less Than Significant with Project design features incorporated	1, 2, 3, 4, 5, 6	Less Than Significant
5	Lockhart Ranch Road East of Edie Road	Less Than Significant with Project design features incorporated	1, 2, 3, 4, 5, 6	Less Than Significant

KOP	Location	Visual Impact Significance ¹	Design Features of Proposed Project	Level of Significance With Design Features ²
6	BLM Watchable Wildlife Area	Altered But Not Significant	1, 2, 3, 4, 5, 6	Less Than Significant
7	BLM Watchable Wildlife Area	Altered But Not Significant	1, 2, 3, 4, 5, 6	Less Than Significant
8	Fossil Bed Road Near Black Canyon Road	Not Significant	1, 2, 3, 4, 5, 6	Not Significant
N/A	Entire Project Area – Light and Glare Effects	Less Than Significant	5	Less Than Significant

Table Notes:

¹ From 5.15-9. General Guidance for Review of Visual Impact Significance

² Level of significance after implementation of specific design features 1 through 6 of the proposed Project (see Section 5.15.3.3 Project Design Features That Avoid Significant Visual Impacts, above).

Involved Agencies and Agency Contacts

Agencies and agency contacts are listed in Table 5.13-12 lists the agencies having jurisdiction over the area that includes the Project site and agency contact information.

Table 5.15-12. Agency Contacts for Mojave Solar Project Visual Resources

Issue	Agency	Contact
Visual resource issues on federal lands in the vicinity of the Mojave Solar Project	Bureau of Land Management	Bradley Mastin BLM Barstow Field Office Outdoor Recreation Planner 2601 Barstow Road Barstow, CA 92311 760.252.6050 Email: Bradley_Mastin@ca.blm.gov
Scenic highway issues	California Department of Transportation	Dennis Cadd Statewide Coordinator Landscape Architecture Program California Department of Transportation 1120 N Street, MS 28 Sacramento, CA 95814 916-654-5370 Email: dennis_cadd@dot.ca.gov

Issue	Agency	Contact
San Bernardino County General Plan, Development Code, and County Ordinance 3900	San Bernardino County Land Use Services Department Building and Safety Division	Andy McCune San Bernardino County Land Use Services Department Building and Safety Division 385 N. Arrowhead Avenue, 1st Floor San Bernardino, CA 92415-0181 909-387-8311 Email: amccune@lusrd.sbcounty.gov

5.15.8 Permit Requirements and Permit Schedule

This section discusses permits and approvals of direct relevance to visual resources. No permits of direct relevance to visual resources issues are required for the project.

5.15.9 References

Beacon Solar Energy Project Docket #08-AFC-02. 2009. Application for Certification for Beacon Solar Energy Project. [online] accessed April 15.

<http://www.energy.ca.gov/sitingcases/beacon/documents/applicant/afc/>

_____. 2009. Section 5.15 Visual Resources for Beacon Solar Energy Project. [online] accessed April 15.

<http://www.energy.ca.gov/sitingcases/beacon/documents/applicant/afc/5.15%20Visual.pdf>

_____. 2009. CEC Report on Visual Resources for the Beacon Solar Energy Project. [online] accessed April 15.

http://www.energy.ca.gov/dockets/docket_redesign.php?docketNo=08-AFC-02.html

California Scenic Highway Mapping System. 2009. Officially Designated State Scenic Highways and Historic Parkways.

http://www.dot.ca.gov/hq/LandArch/scenic_highways/index.htm [online] accessed April 22.

- California State Parks and Recreation. 2009. Deserts Region – Find A Park. http://www.parks.ca.gov/parkindex/region_info.asp?regiontab=0&id=11 [online] accessed April 15.
- _____. 2009. Providence Mountains State Recreation Area. http://www.parks.ca.gov/default.asp?page_id=615 [online] accessed April 15.
- _____. 2009. Red Rock Canyon State Park. http://www.parks.ca.gov/default.asp?page_id=631. [online.] accessed April 15.
- _____. 2009. Indio Hills Palms Park Property. http://www.parks.ca.gov/default.asp?page_id=640 [online] accessed April 15.
- CERES. 2009. CEQA Guidelines Appendix G, Environmental Checklist Form. [online] accessed April 11. http://ceres.ca.gov/ceqa/guidelines/pdf/appendix_g-3.pdf.
- _____. 2009. CEQA, The California Environmental Quality Act. [online] accessed April 11. <http://ceres.ca.gov/ceqa/index.html>
- Google Maps. 2009. Barstow, CA & Harper Dry Lake. [online.] <http://maps.google.com/>. Accessed April 12.
- Mastin, Bradley. 2009. Outdoor Recreation Planner, BLM Barstow Field Office. Personal telephone communication with Lee Anderson, Associate of 3DScape. June 5.
- McCune, Andy. 2009. Land Use Technician. San Bernardino County Land Use Services Department, Building and Safety Division. Personal communication with Lee Anderson, Associate of 3DScape. June 22.
- Redell Engineering, Inc. 2009. Project Description and Project Site Map. Personal communication with 3DScape: Tim Zack, and Lee Anderson. April-June, 2009.
- San Bernardino County. 2009a. San Bernardino County General Plan, revised 2007. <http://www.co.san-bernardino.ca.us/sbcountygeneralplan/> [online] accessed June 11.
- _____. 2009b. San Bernardino County Land Use Element of General Plan, revised 2007. http://www.co.san-bernardino.ca.us/landuseservices/general_plan/ [online] accessed June 15.
- _____. 2009c. San Bernardino County Development Code. <http://www.co.san-bernardino.ca.us/landuseservices/DevCode/Default.asp> [online] accessed June 16.
- _____. 2009d. San Bernardino County Ordinance No. 3900. An Ordinance of the County of San Bernardino, State of California Amending Sections 87.0920 and 812.12089, Adding Section 87.0921 to Chapter 9 of Division 7 of Title 8 of the San Bernardino County Code and Repealing Section 86.080550 of Title 8 All Relating To

Regulations For Glare, Outdoor Lighting and Night Sky Protection.
<http://www.sbcounty.gov/landuseservices/Ordinances/ORD-Night%20Sky-Mtn-Desert-Adopted-3900.pdf> [online] accessed June 15.

_____. 2009e. San Bernardino County Ordinance No. 3040. San Bernardino County Initial Study/Environmental Checklist Form http://www.co.san-bernardino.ca.us/sbcountygeneralplan/media/NOP_Environmental_Checklist.pdf [online] accessed June 15.

U.S. Department of Agriculture (USDA) Forest Service (FS). 1973. National Forest Landscape Management Volume 1. Washington D.C. Superintendent of Documents, Agriculture Handbook No. 434, page 50.

_____. 1995. Landscape Aesthetics, A Handbook for Scenery Management. Agriculture Handbook No. 701, page 4-5.

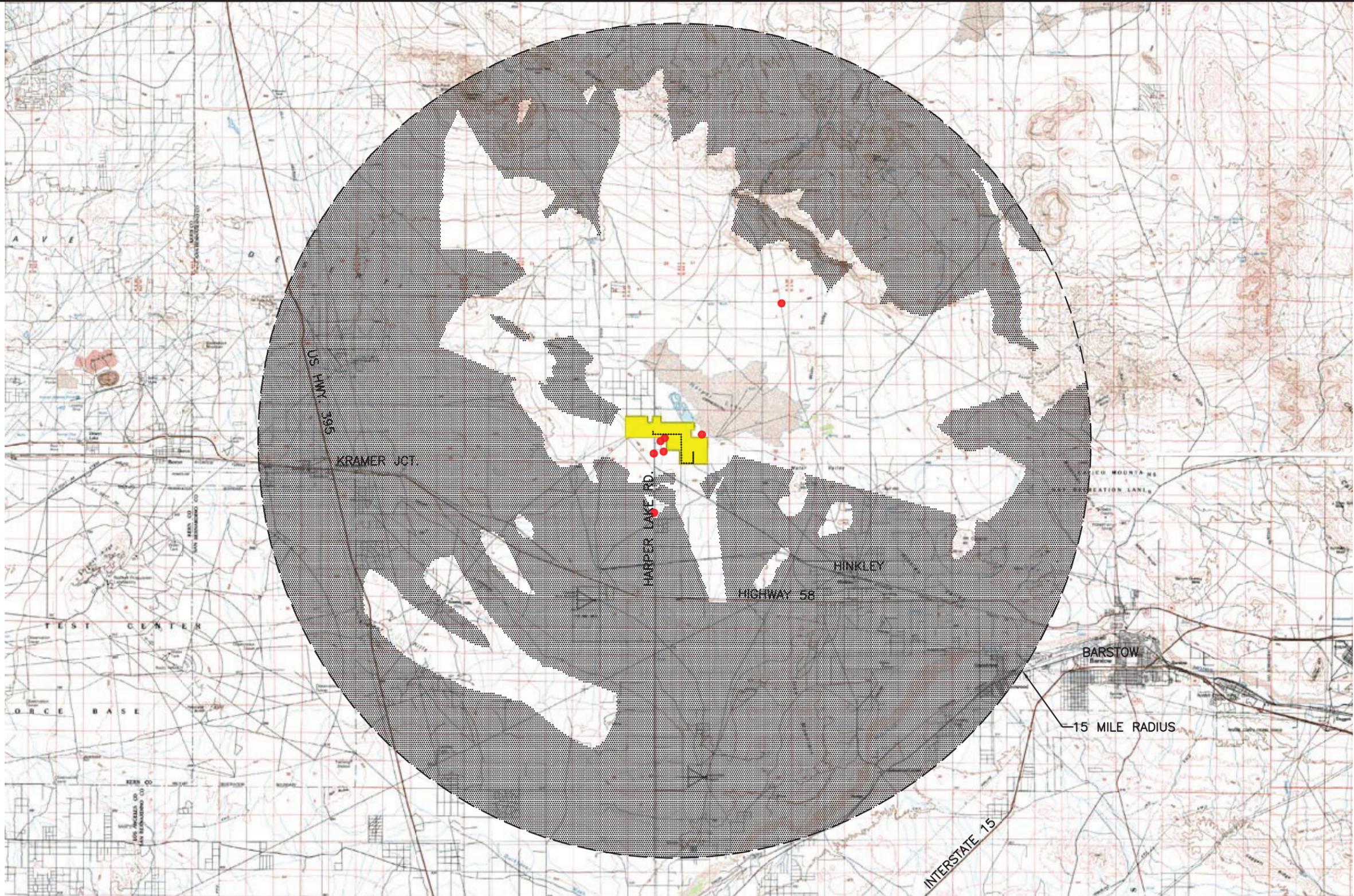
U. S. Department of the Interior (USDI), Bureau of Land Management (BLM). 1986a. Visual Resource Management System. BLM Manual Handbook 8410-1.

_____. 1986b. Visual Resource Contrast Rating System. BLM Manual Handbook 8431-1.

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- LEGEND**
- PROJECT BOUNDARY
 - AREAS WHERE PROJECT IS NOT VISIBLE
 - KOP LOCATIONS
 - TRANSMISSION LINE

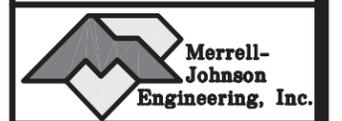


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MOJAVE SOLAR PROJECT

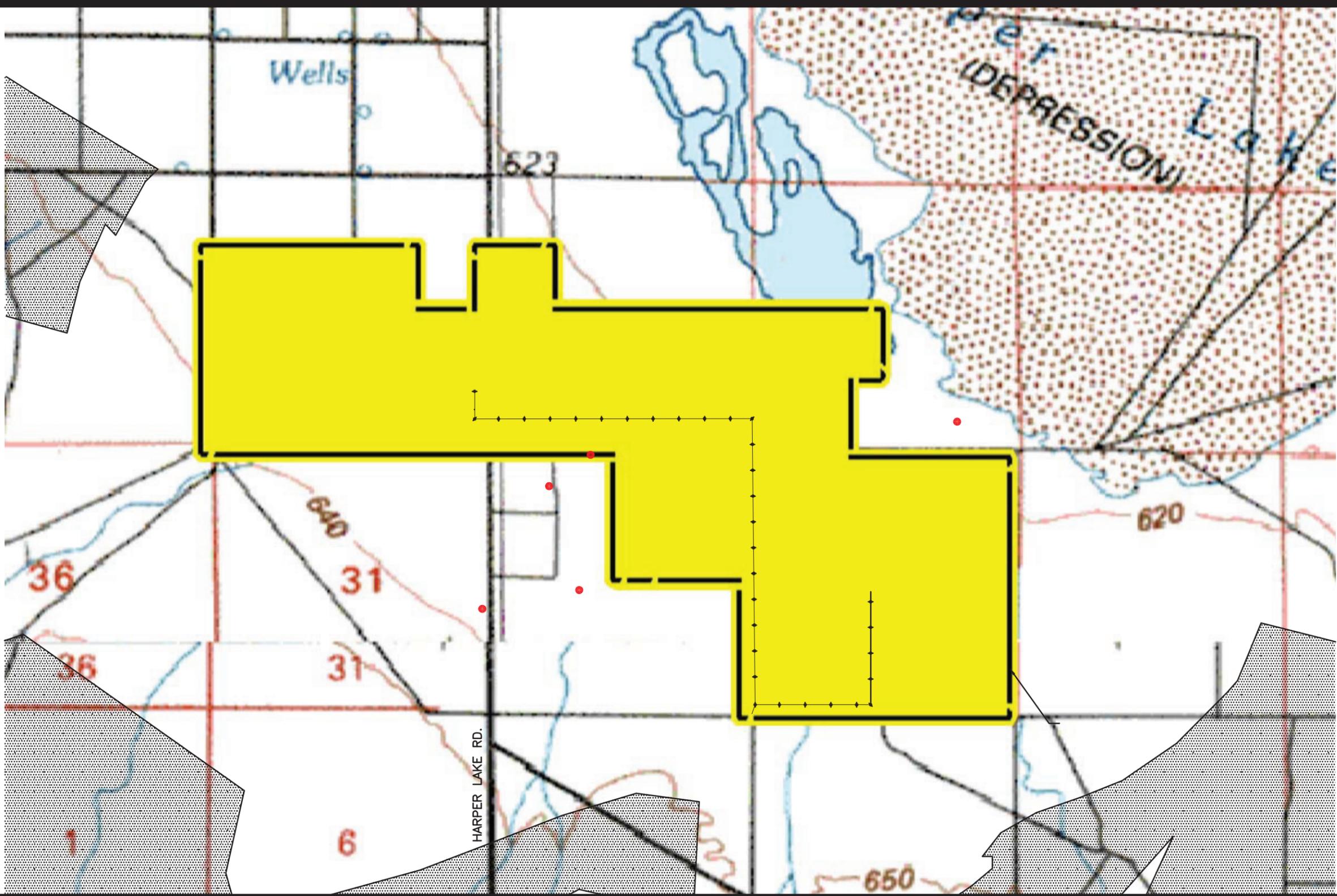
**Figure 5.15-1(a)
Regional Visibility
of the Project**

MOJAVE SOLAR LLC



PROJECT:
DATE: 07/24/09

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LEGEND

- PROJECT BOUNDARY
- AREAS WHERE PROJECT IS NOT VISIBLE
- KOP LOCATIONS
- TRANSMISSION LINE



MOJAVE SOLAR PROJECT

Figure 5.15-1(b)
Regional Visibility
of the Project
(Local to Site)

MOJAVE SOLAR LLC



PROJECT:
 DATE: 07/24/09

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Figure 5.15-3(a). KOP-1 – Harper Lake Road Near Phoenix Road (pre-project)



Figure 5.15-3(b). KOP-1 – Harper Lake Road Near Phoenix Road (post project)



Figure 5.15-4(a). KOP-2 – Harper Lake Road South of Roy Road (pre-project)



Figure 5.15-4(b). KOP-2 – Harper Lake Road South of Roy Road (post project)



Figure 5.15-5(a). KOP-3 – Roy Road East of Edie Road (pre-project)



Figure 5.15-5(b). KOP-3 – Roy Road East of Edie Road (post project)



Figure 5.15-6(a). KOP-4 – Edie Road South of Lockhart Ranch Road (pre-project)



Figure 5.15-6(b). KOP-4 – Edie Road South of Lockhart Ranch Road (post project)



Figure 5.15-7(a). KOP-5 – Lockhart Ranch Road East of Edie Road (pre-project)



Figure 5.15-7(b). KOP-5 – Lockhart Ranch Road East of Edie Road (post project)



Figure 5.15-8(a). KOP-6 – BLM Watchable Wildlife Area (pre-project)



Figure 5.15-8(b). KOP-6 – BLM Watchable Wildlife Area (post project)



Figure 5.15-9(a). KOP-7 – BLM Watchable Wildlife Area (pre-project)



Figure 5.15-9(b). KOP-7 – BLM Watchable Wildlife Area (post project)



Figure 5.15-10(a). KOP-8 – Fossil Bed Road Near Black Canyon Road (pre-project)



Figure 5.15-10(b). KOP-8 – Fossil Bed Road Near Black Canyon Road (post project)

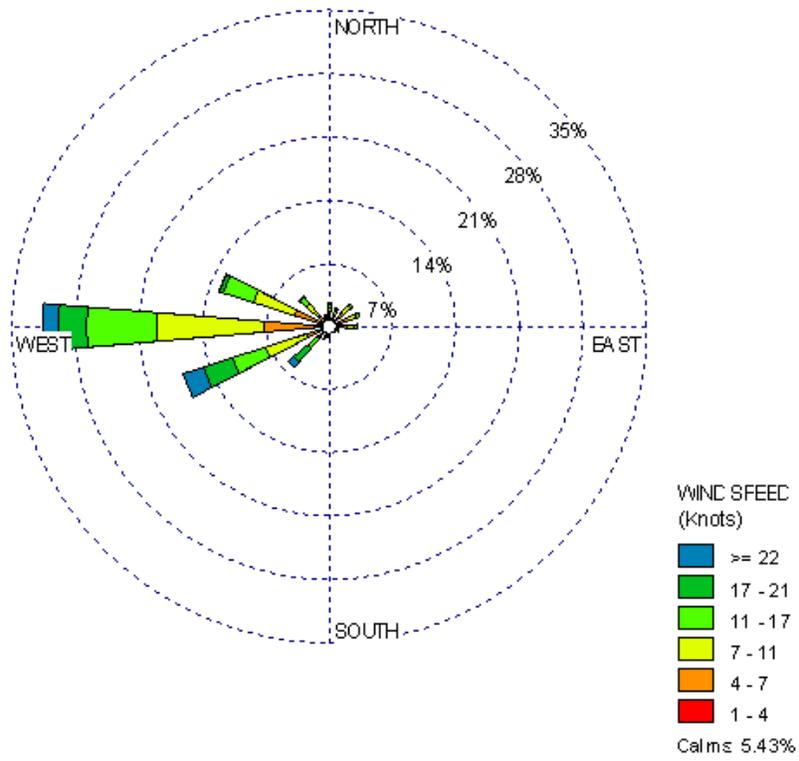


Figure 5.15-11. Annual Wind Rose (1988-1990) Daggett, CA Airport

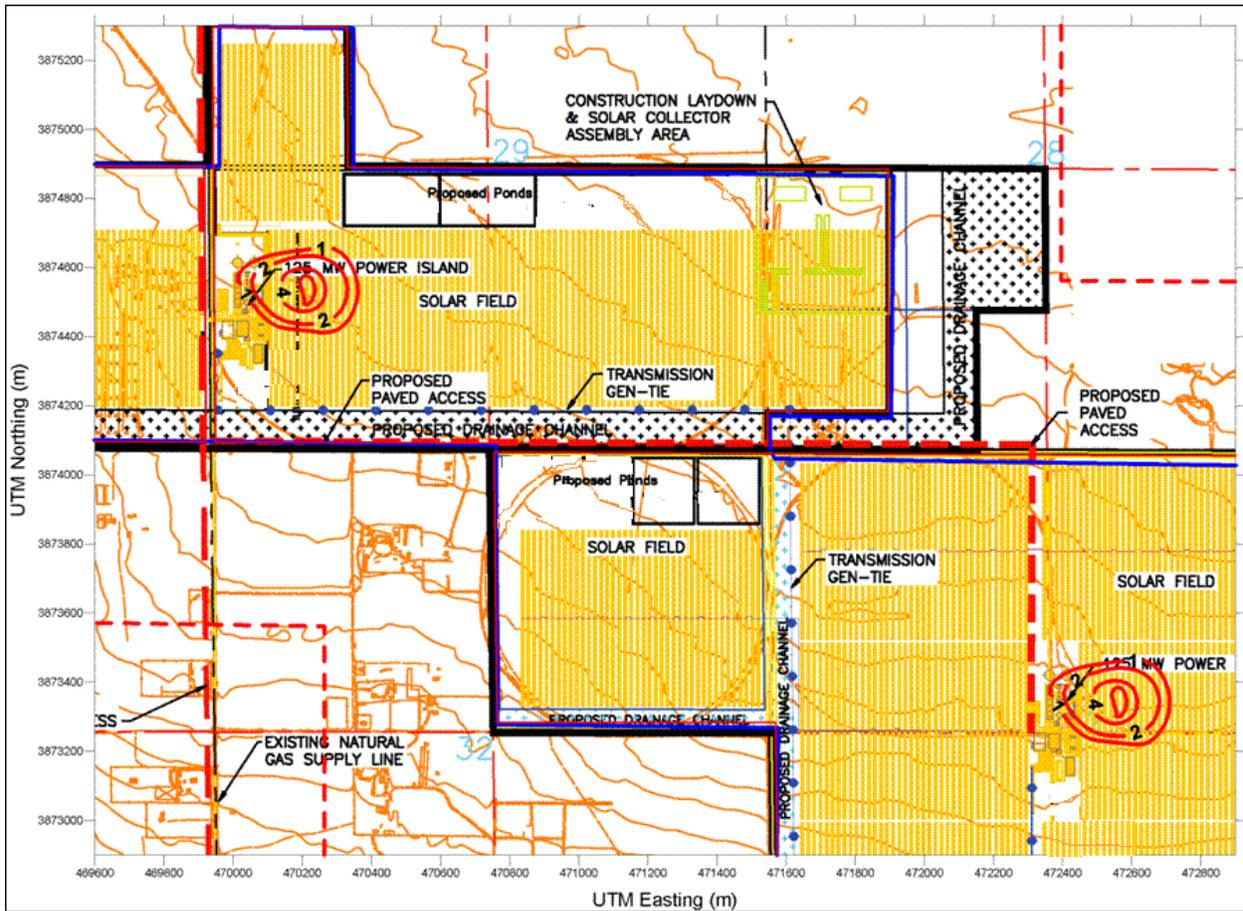


Figure 5.15-12. Percent Hours of a Visual Plume

