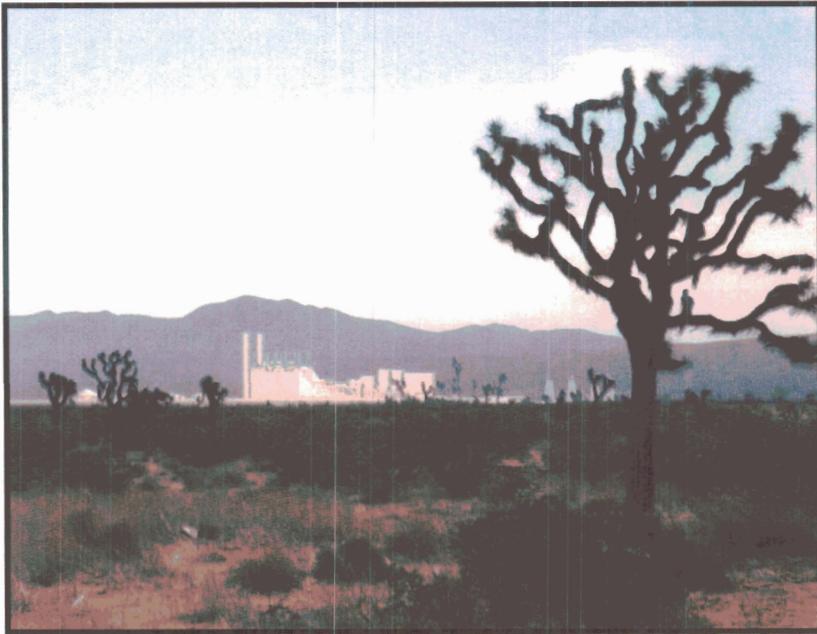


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**CALIFORNIA
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VICTORVILLE 2 HYBRID POWER PROJECT

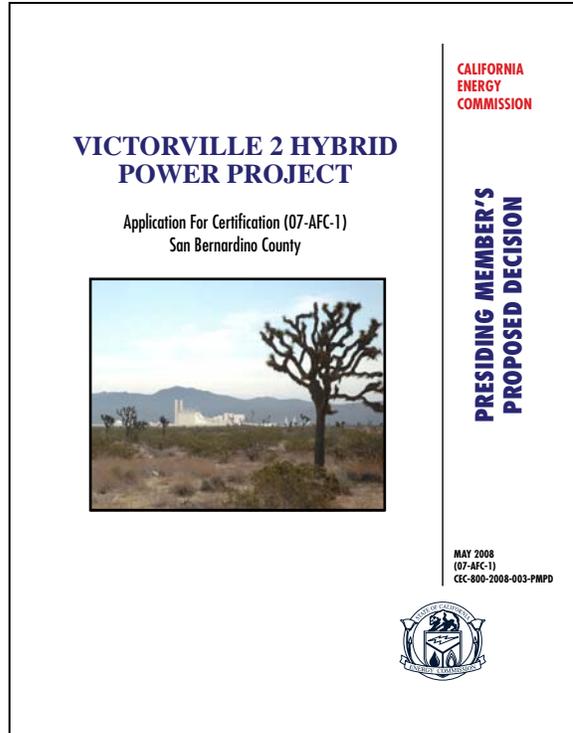
**Application For Certification (07-AFC-1)
San Bernardino County**



**PRESIDING MEMBER'S
PROPOSED DECISION**

**MAY 2008
(07-AFC-1)
CEC-800-2008-003-PMPD**





**CALIFORNIA ENERGY
COMMISSION**

1516 9th Street
Sacramento, CA 95814

www.energy.ca.gov/sitingcases/victorville2/index.html



JAMES D. BOYD
Presiding Committee Member

JACKALYNE PFANNENSTIEL
Associate Committee Member

RAOUL RENAUD
Hearing Officer

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512
www.energy.ca.gov

**BEFORE THE STATE OF CALIFORNIA ENERGY RESOURCES
CONSERVATION AND DEVELOPMENT COMMISSION*****VICTORVILLE 2 HYBRID POWER PROJECT***
(CEC Docket No. 07-AFC-01)

The Committee hereby submits the Presiding Member's Proposed Decision (PMPD) for the ***VICTORVILLE 2 HYBRID POWER PROJECT***, to be located approximately 3.5 miles east of Highway 395 and approximately 0.5 mile west of the Mojave River, in San Bernardino County. We have prepared this PMPD pursuant to the requirements set forth in the Energy Commission's regulations. [Cal. Code Regs., tit. 20, § 1769.]

The Committee recommends that the Application for Certification be approved, subject to the Conditions of Certification set forth herein, and that the Energy Commission grant the Project Owner a license to construct and operate the Project.

Dated May 30, 2008, at Sacramento, California.

Original signed by

JAMES D. BOYD
Vice Chair and Presiding Member
Victorville 2 AFC Committee

Original signed by

JACKALYNE PFANNENSTIEL
Chairman and Associate Member
Victorville 2 AFC Committee

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INTRODUCTION

A. SUMMARY OF THE DECISION

This Decision contains our rationale for determining whether the Victorville 2 Hybrid Power Project (Victorville 2) complies with all applicable laws, ordinances, regulations, and standards and whether it can, therefore, be licensed. Our findings and conclusions are based exclusively upon the record established during the certification proceeding, which is summarized in this document. We have independently evaluated the evidence, provided references to the record¹ which support our findings and conclusions, and specified the measures required to ensure that Victorville 2 is designed, constructed, and operated in a manner that will protect public health and safety, promote the general welfare, and preserve environmental quality.

On February 28, 2007, the City of Victorville (Applicant) submitted an Application for Certification (AFC) to construct and operate the Victorville 2 Hybrid Power Project (Victorville 2), a hybrid of natural gas-fired combined cycle generating equipment integrated with solar thermal generating equipment, in the City of Victorville, San Bernardino County.

The proposed Victorville 2 project would have a net electrical output of 563 megawatts (MW), with construction planned to begin in summer of 2008 and operation planned by summer of 2010. Victorville 2 is designed to use solar technology to generate a portion of the project's output, supporting the State of California's goal of expanding its renewable energy portfolio. Primary equipment for the generating facility would include two natural gas-fired combustion turbine-generators (CTGs) rated at 154 MW each, two heat recovery steam generators

¹ The Reporter's Transcript of the evidentiary hearings conducted on April 3, 2008, is cited as "4/03/08 RT ___." The exhibits included in the evidentiary record are cited as "Ex. number." A list of all exhibits is contained in Appendix B of this Decision.

(HRSGs), one steam turbine-generator (STG) rated at 268 MW, and 250 acres of parabolic solar-thermal collectors with associated heat transfer equipment. The solar-thermal collectors would contribute up to 50 MW of the STG's 268 MW output, and with plant auxiliary loads of about 13 MW, Victorville 2's net output would be 563 MW.

Construction of the proposed Victorville 2 would require three areas that total 388 acres, located immediately north of the Southern California Logistics Airport (SCLA) which is the site of the former George Air Force Base. Including the land required for the solar collectors, the footprint of the power plant would require grading of approximately 338 acres, and construction laydown would require two separate temporary areas of 20 and 30 acres each. The project site is situated approximately 3.5 miles east of Highway 395 and approximately 0.5 mile west of the Mojave River.

The proposed Victorville 2 facility would connect via a single-circuit three-phase 230-kV transmission line to the power grid through Southern California Edison's (SCE's) existing Victor Substation, located approximately 10 miles south-southwest of the proposed Victorville 2 Project site. Segment 1 of the overhead line, consisting of new steel poles and conductor, would run approximately 4.3 miles in a new right-of-way beginning at the southern boundary of the proposed Victorville 2 plant site and extending southeastward to a point along SCE's existing High Desert Power Project - Victor right-of-way. Segment 2 extends from this point for 5.7 miles to SCE's existing Victor Substation, and would consist of primarily installing conductor on existing towers having space available for a second circuit, except for three locations where new towers would be needed to cross under existing SCE transmission lines. To accommodate the proposed Victorville 2, segment 3 involves increasing the capacity of the existing SCE system between SCE's Victor Substation and Lugo Substation, for a distance of approximately 11 miles south of the Victor Substation. This would require the relocation of 6.6 miles of an existing 115 kV transmission line within the same

ROW, and installing new steel poles or lattice towers and conductor for 11 miles of the proposed 21-mile long 230-kV Victorville 2 project transmission line.

Natural gas would be delivered to the project through the Kern River-High Desert Power Project Lateral. The existing 24-inch natural gas pipeline runs adjacent to the southwestern corner of the proposed Victorville 2 site. The project would install a new 12-inch natural gas line to connect with the existing 24-inch line at a point adjacent to the southwest corner of the proposed site and extending approximately 450 feet beyond the boundary.

Process water needs would be met by the use of reclaimed water supplied by the Victor Valley Wastewater Reclamation Authority (VWVRA) via a new 1.5 mile, 14-inch pipeline extending from the reclaimed water production system at the VWVRA treatment plant located southeast of the proposed site. On an annual basis, the proposed Victorville 2 project would consume a maximum of about 3,150 acre-feet/year of reclaimed water for power plant processes, primarily serving cooling demand using an evaporative (wet) cooling tower and including use for parabolic mirror washing in the solar field. Potable water would be supplied to the proposed project by a new onsite well, serving drinking, sanitary and other washing needs, and requiring up to 3.6 acre-feet/year. Process wastewater would be treated using a zero liquid discharge system, separating water for reuse from solids in the form of brine that would be processed into solids for landfill disposal. Sanitary waste would be sent to the VWVRA treatment plant in a new 1.25-mile sanitary wastewater line.

Air emissions from the combustion of natural gas in the CTGs and duct burners of the HRSGs would be controlled using best available control technology applied to their exhaust. Oxides of nitrogen (NO_x) from the CTG's stack emissions would be controlled by dry low- NO_x combustors followed by a selective catalytic reduction system in the HRSGs. An oxidation catalyst located within each HRSG would also control carbon monoxide (CO) and volatile organic

compounds (VOC). In order to be considered for licensing by the Energy Commission, the project would be required to conform with rules and regulations of the Mojave Desert Air Quality Management District and be issued a Final Determination of Compliance from the Air District.

Construction of the project would start in summer 2008. Pre-operational testing of the power plant would begin in late spring 2010, and full commercial operation would then be expected to begin by late summer 2010.

B. SITE CERTIFICATION PROCESS

The Victorville 2 Project and its related facilities are subject to Energy Commission licensing jurisdiction. (Pub. Resources Code, § 25500 et seq.). During licensing proceedings, the Commission acts as lead state agency under the California Environmental Quality Act (CEQA). (Pub. Resources Code, §§ 25519 (c), 21000 et seq.) The Commission's regulatory process, including the evidentiary record and associated analyses, is functionally equivalent to the preparation of an Environmental Impact Report. (Pub. Resources Code, § 21080.5.) The process is designed to complete the review within a specified time period when the required information is submitted in a timely manner; a license issued by the Commission is in lieu of other state and local permits.

The Commission's certification process provides a thorough review and analysis of all aspects of a proposed power plant project. During this process, we conduct a comprehensive examination of a project's potential economic, public health and safety, reliability, engineering, and environmental ramifications.

Specifically, the Commission's process allows for and encourages public participation so that members of the public may become involved either informally or on a formal level as intervenor parties who have the opportunity to

present evidence and cross-examine witnesses. Public participation is encouraged at every stage of the process.

The process begins when an Applicant submits an Application for Certification (AFC). Commission staff reviews the data submitted as part of the AFC and makes a recommendation to the Commission on whether the AFC contains adequate information to begin the certification process. After the Commission determines an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the formal licensing process. This process includes public conferences and evidentiary hearings, where the evidentiary record is developed and becomes the basis for the Presiding Member's Proposed Decision (PMPD). The PMPD determines a project's conformity with applicable laws, ordinances, regulations, and standards and provides recommendations to the full Commission.

The initial portion of the certification process is weighted heavily toward assuring public awareness of the proposed Project and obtaining necessary technical information. During this time, the Commission staff sponsors public workshops at which Intervenors, agency representatives, and members of the public meet with Staff and Applicant to discuss, clarify, and negotiate pertinent issues. Staff publishes its initial technical evaluation of the Project in its Preliminary Staff Assessment (PSA), which is made available for public comment. Staff's responses to public comment on the PSA and its complete analyses and recommendations are published in the Final Staff Assessment (FSA).

Following this, the Committee conducts a Prehearing Conference to assess the adequacy of available information, identify issues, and determine the positions of the parties. Based on information presented at this event, the Committee issues a Hearing Order to schedule formal evidentiary hearings. At the evidentiary hearings, all formal parties, including Intervenors, may present sworn testimony, which is subject to cross-examination by other parties and questioning by the

Committee. Members of the public may offer oral or written comments at these hearings. Evidence submitted at the hearings provides the basis for the Committee's analysis and recommendations to the full Commission.

The Committee's analysis and recommendations appear in the PMPD, which is available for a 30-day public comment period. Depending upon the extent of revisions necessary after considering comments received during this period, the Committee may elect to publish a revised version. If so, the Revised PMPD triggers an additional 15-day public comment period. Finally, the full Commission decides whether to accept, reject, or modify the Committee's recommendations at a public hearing.

Throughout the licensing process, members of the Committee, and ultimately the Commission, serve as fact-finders and decision-makers. Other parties, including the Applicant, Commission staff, and formal intervenors, function independently with equal legal status. An "ex parte" rule prohibits parties from communicating on substantive matters with the decision-makers, their staffs, or assigned hearing officer unless these communications are made on the public record. The Office of the Public Adviser is available to assist the public in participating in all aspects of the certification proceeding.

C. PROCEDURAL HISTORY

Public Resources Code, sections 25500 et seq., and Energy Commission regulations (Cal. Code Regs., tit. 20, § 1701, et seq.) mandate a public process and specify the occurrence of certain necessary events. The key procedural events that occurred in the present case are summarized below.

On February 28, 2007, the City of Victorville submitted an Application for Certification (AFC) with the California Energy Commission to construct and operate the Victorville 2 Hybrid Power Project. On April 17, 2007, the

Commission deemed the AFC data adequate and assigned a Committee of two Commissioners to conduct proceedings.

On April 24, 2007, the Committee issued a notice of "Informational Hearing and Site Visit" to be held on June 8, 2007, in the city of Victorville. The Notice was mailed to members of the community who were known to be interested in the project, including the owners of land adjacent to or in the vicinity of the project. The notice was also published in *The Daily Press*, a local general circulation newspaper.

On June 14, 2007, the Committee issued its schedule for the proceedings. The Committee Schedule contained a list of events that must occur to complete the certification process in twelve months. The schedule requires periodic status reports to determine whether case development is progressing satisfactorily, and to bring potential schedule delays or other relevant matters to the Committee attention.

Staff conducted a public workshop on August 8, 2007. Participating agencies in the workshop included the Applicant City of Victorville, Victorville Water, Mojave Water Agency, California Department of Fish and Game (CDFG), and Lahontan Regional Water Quality Control Board.

Staff published its Preliminary Staff Assessment (PSA) on November 21, 2007, and conducted a PSA Workshop on December 11, 2007, in the city of Victorville, the purpose of which was to receive public comments on the PSA and to discuss and/or clarify outstanding issues focusing on the topics of Air Quality, Biology, Cultural Resources, Soil and Water Resources and Traffic and Transportation. Staff issued its Final Staff Assessment (FSA) on March 19, 2008.

On March 13, 2008, the Committee issued a "Notice of Prehearing Conference, and Notice of Evidentiary Hearing," which were held on April 1, 2008, and April 3,

2008, respectively, with the Evidentiary Hearing held in Victorville. At the evidentiary hearing it was determined that certain issues with respect to the project's impacts on biological resources were not yet fully resolved, and the Committee held the evidentiary record open with respect to those issues. Further evidence will be received by the Committee at the Committee Conference, and that evidence incorporated into the Final Decision.

During the review process, extensive coordination occurred with numerous other local, state and federal agencies that have an interest in the project including the Mojave Desert Air Quality Management District (MDAQMD), Victorville Water, the Mojave Water Agency, the Lahontan Regional Water Quality Control Board, the California Department of Fish and Game (CDFG), the California Department of Toxic Substances Control (DTSC), the United States Environmental Protection Agency (EPA), the United States Fish and Wildlife Service (USFWS), the California Independent System Operator (CAISO), the city of Hesperia, San Bernardino County, CalTRANS, the Federal Aviation Administration (FAA), and the California Air Resources Board.

The formal parties included Commission staff, the Applicant, and Intervenors California Unions for Reliable Energy (CURE), and the Alliance for a Cleaner Tomorrow (ACT).

After reviewing the evidentiary record, including Intervenor testimony and voluminous exhibits, the Committee published the Presiding Member's Proposed Decision (PMPD) on May 30, 2008, and scheduled a Committee Conference to discuss comments on the PMPD. The 30-day comment period on the PMPD ended June 30, 2008. The full Commission will consider adoption of the PMPD at a regularly scheduled business meeting on July 16, 2008.

I. PROJECT DESCRIPTION

The Victorville 2 project is being developed by the City of Victorville, which submitted an Application for Certification (AFC) to construct and operate the Victorville 2 Hybrid Power Project (Victorville 2 or Project); a hybrid of natural gas-fired combined cycle generating equipment integrated with solar thermal generating equipment, in the City of Victorville, San Bernardino County. The 563-MW nominal capacity Victorville 2 would provide base and peak load power services designed to meet electric generation demand and reliability requirements in the city of Victorville and surrounding local areas, and to provide additional generating capacity for the region and state.

The proposed site for the Victorville 2 project is located in the northeastern corner of the city of Victorville, in San Bernardino County. The project site is approximately 3.5 miles east of Highway 395 and approximately 0.5 mile west of the Mojave River, immediately northeast of the intersection of Colusa and Helendale Roads. The city of Victorville is located within the Mojave River Region of the southwestern Mojave Desert, known as Victor Valley, and is surrounded by the cities of Adelanto and Hesperia and the town of Apple Valley. With a population of approximately 95,000, Victorville is a growing urban area situated along a primary transportation route between the Los Angeles Basin and Las Vegas.

Construction of the proposed Victorville 2 facility would require three areas that total 388 acres, located 0.75 miles north of the Southern California Logistics Airport (SCLA), which is the site of the former George Air Force Base. Including the land required for the solar collectors, the footprint of the power plant would require grading of approximately 338 acres in order to provide a usable area of 275 acres for the Power Block and Solar Field. Construction laydown would

require temporary use of two separate areas consisting of 20 and 30 acres each located south and west of the project site.

Vegetation on the site and in the immediate project area consists of primarily Mojave creosote bush scrub, which provides suitable habitat for several regionally common wildlife species. All lands adjoining the power plant site are currently vacant. There is currently one residence within the power plant site, which the city of Victorville is seeking to acquire. The next nearest residence is a horse ranch located approximately one mile west of the power plant boundary on Colusa Road. There are no sensitive receptors consisting of schools, childcare, hospital, or medical facilities; or residences that would remain following construction of the project within a one-mile radius of the Victorville 2 project site. No agricultural production would be displaced by any elements of the project.

1. Equipment and Linear Facilities

Victorville 2 is designed to use solar technology to generate a portion of the project's output and thereby support the State of California's goal of increasing the percentage of renewable energy supplies. Primary equipment for the generating facility within the Power Block would include two natural gas-fired combustion turbine-generators (CTGs) rated at 154 MW each, two heat recovery steam generators (HRSGs), and one steam turbine-generator (STG) rated at 268 MW arranged in a two-on-one combined cycle train. The project would also include evaporative (wet) cooling towers for steam condensation and evaporative inlet air cooling for the CTGs, the electrical switchyard and auxiliary equipment. The 250-acre Solar Field would consist of parabolic solar-thermal collectors and associated heat transfer equipment arranged in rows. Spacing between the rows would allow for maintenance vehicles and periodic spray washing to remove dust and maintain efficiency of the solar collectors. The solar-thermal collectors would contribute up to 50 MW of the STG's 268 MW output, and with plant auxiliary loads of about 13 MW, Victorville 2's net output would be 563 MW. With the

hybridization of combined-cycle and solar-thermal technologies, the project would be capable of operating at a full-load efficiency of 59 percent, which exceeds the efficiency of a typical natural gas-fired combined-cycle power plant (without solar energy input) by as much as 5 percent. Victorville 2 will be able to start-up in about half the time of other combined cycle plants as a result of General Electric Power System's 'Rapid Start Process'. (Ex. 200, p. 3-3.)

The proposed Victorville 2 facility would connect via a single-circuit three-phase 230-kV transmission line to the power grid through SCE's existing Victor Substation, located approximately 10 miles south-southwest of the proposed Victorville 2 Project site. Segment 1 of the overhead line, consisting of new steel poles and conductor, would run approximately 4.3 miles in a new right-of-way beginning at the southern boundary of the proposed Victorville 2 plant site and extending southeastward to a point along SCE's existing High Desert Power Project - Victor right-of-way. Segment 2 extends from this point for 5.7 miles to SCE's existing Victor Substation, and would primarily consist of installing conductors on existing towers having space available for a second circuit, except for three locations where new towers would be needed to cross under existing SCE transmission lines. To accommodate the proposed Victorville 2 facility, Segment 3 involves increasing the capacity of the existing SCE system between SCE's Victor Substation and Lugo Substation, for a distance of approximately 11 miles south of the Victor Substation. This would require the relocation of 6.6 miles of an existing 115-kV transmission line within the same right-of-way, and installing new steel poles or lattice towers and conductors for 11 miles associated with Segment 3 of the total proposed 21-mile long 230-kV Victorville 2 project transmission line. (Ex. 200, pp. 3-3 – 3.4.)

2. Natural Gas Supply

Natural gas would be delivered to the project through the Kern River-High Desert Power Project Lateral. The existing 24-inch natural gas pipeline runs adjacent to the southwestern corner of the proposed Victorville 2 site. The project would install a new 12-inch natural gas line to connect with the existing 24-inch line at a point adjacent to the southwest corner of the proposed site and extending approximately 450 feet beyond the project boundary. (*Id.*)

3. Water Supply

Process water needs would be met by the use of reclaimed water supplied by the Victor Valley Wastewater Reclamation Authority (VWVRA) via a new 1.5-mile, 14-inch pipeline extending from the reclaimed water production system at the VWVRA treatment plant located southeast of the proposed site. On an annual basis, the proposed Victorville 2 project would consume a maximum of about 3,150 acre-feet/year of reclaimed water for power plant processes, primarily serving cooling demand using an evaporative (wet) cooling tower and including about 46 acre-feet/year needed for parabolic mirror washing in the solar field. Potable water and backup process water would be supplied to the proposed project from the City of Victorville's (Victorville Water) municipal supply of groundwater via a 3-mile long pipeline along Perimeter Road. Potable water would serve drinking, sanitary and other washing needs, and require up to 3.6 acre-feet/year. (*Id.*)

4. Wastewater Discharge

Process wastewater would be treated using a zero liquid discharge system, separating water for reuse from solids in the form of brine that would be converted into solids for landfill disposal. Wastewater from plant drains would be conveyed for reuse to the cooling tower. Sanitary waste would be sent to the

VVWRA treatment plant in a new 1.25-mile sanitary wastewater line. Stormwater for the power plant site would be collected and routed using two separate systems, separating the 25-acre Power Block from the 250-acre Solar Field. Both systems would provide retention of stormwater to account for higher runoff rates associated with a reduction in soil permeability, in order to maintain discharges from the site to less than or equal to pre-developed flow rates. Stormwater discharges from the site would drain overland to the Mojave River. (*Id.*)

5. Construction and Operation Schedule

If approved by the Energy Commission, the City of Victorville proposes to initiate construction of Victorville 2 in summer 2008. The project is expected to take about 27 months for construction and startup testing, and could begin commercial operation by late summer of 2010, provided there are no delays. The construction workforce would average 367 workers per month and would peak during the 12th month with up to 767 workers onsite. Construction costs are estimated to be about \$700 million.

In order to construct Victorville 2, it would be necessary to perform grading of about 338 acres involving the cut and fill of approximately 1.5 million cubic yards of soil in order to provide the finished 275-acre footprint for the Power Block and Solar Field. In general, soil from the west portion of the site would be cut to fill area on the east portion of the site, resulting in gently sloping ground draining to the east within the Power Block, and to the north within the Solar Field.

Primary construction access would be from I-15 via D Street, Air Expressway, and Adelanto, Colusa and Helendale Roads to the Victorville 2 project site. Storage of construction materials and equipment would occur within the proposed Power Block and Solar Field areas, and within the staging areas located west and south of the project site. Construction worker parking would also occur within these same project areas.

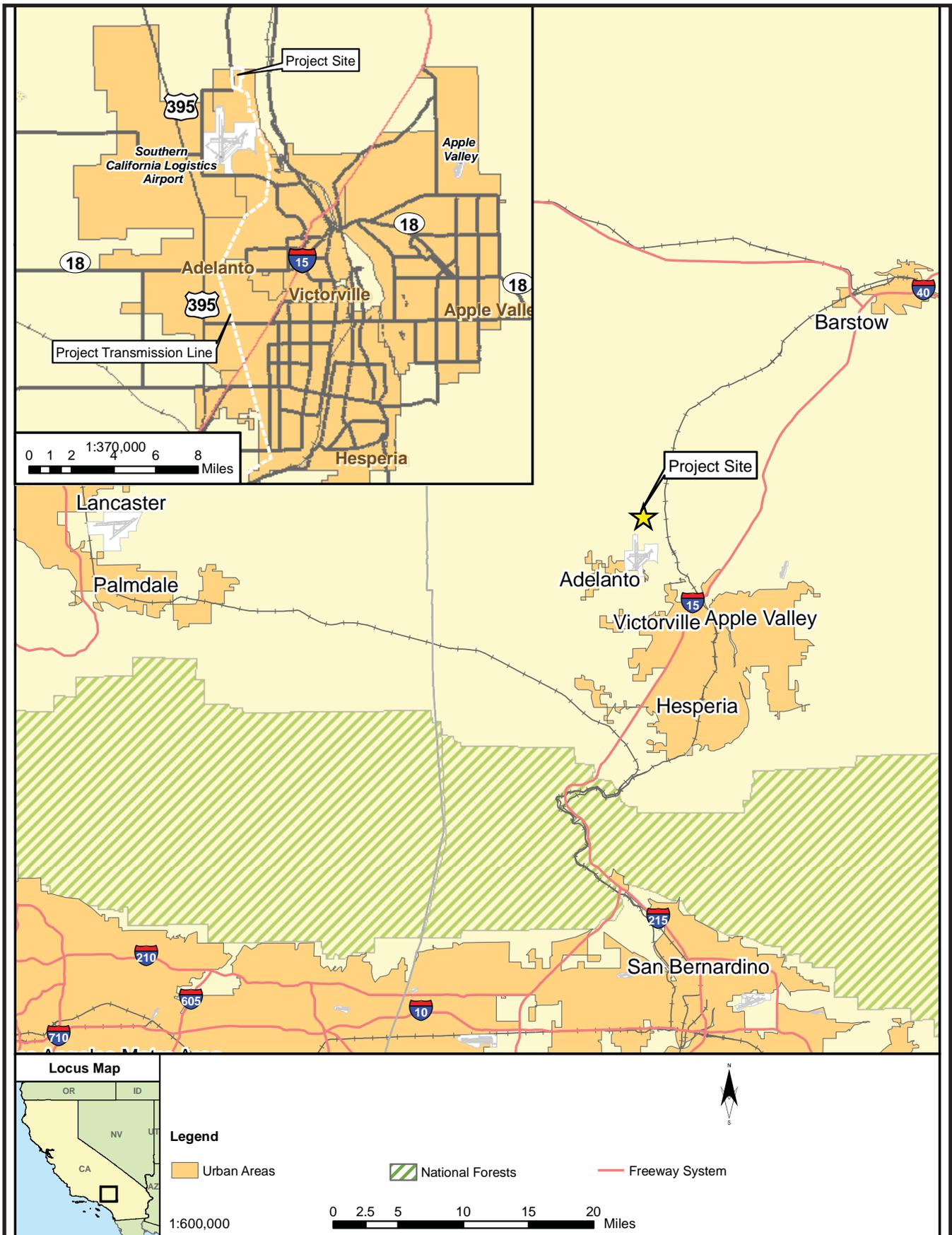
FINDINGS AND CONCLUSIONS

Based on the evidence, we find as follows:

1. The City of Victorville will own and operate the project.
2. The Victorville 2 project involves the construction and operation of a nominal 563-MW a hybrid of natural gas-fired, combined-cycle electrical generating equipment with solar thermal generating equipment in the City of Victorville, to be used as a baseload and peaking source of electricity generation.
3. The project includes associated transmission, gas supply, and water supply lines.
4. The project and its objectives are adequately described by the relevant documents contained in the record.

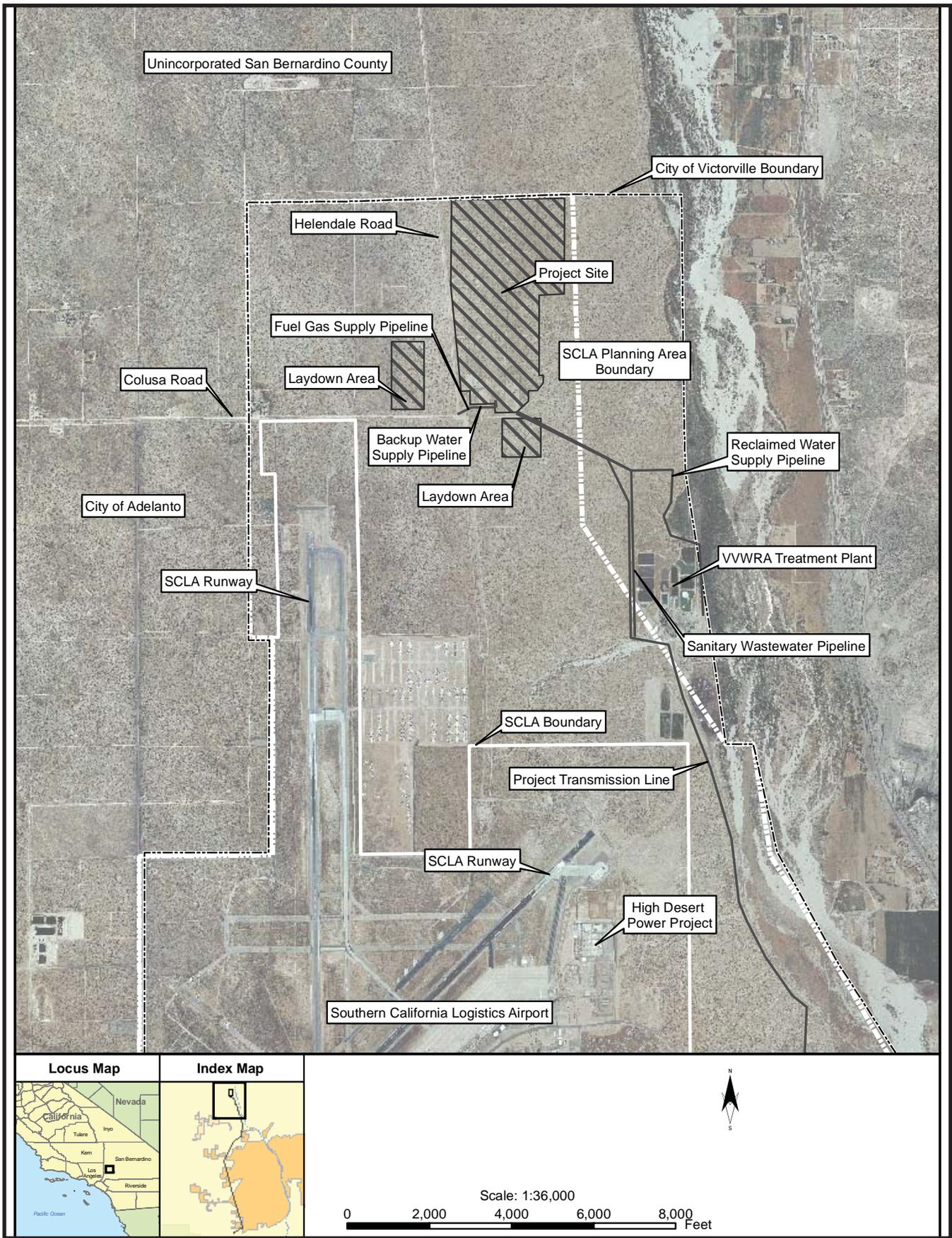
We therefore conclude that the Victorville 2 project is described at a level of detail sufficient to allow review in compliance with the provisions of both the Warren- Alquist Act and the California Environmental Quality Act.

PROJECT DESCRIPTION - FIGURE 1
 Victorville 2 Hybrid Power Project - Regional Setting



SOURCE: Ex. 200

PROJECT DESCRIPTION - FIGURE 2
 Victorville 2 Hybrid Power Project - Local Setting



SOURCE: Ex. 200

II. PROJECT ALTERNATIVES

The California Environmental Quality Act (CEQA) Guidelines and the Energy Commission's regulations require an evaluation of the comparative merits of a range of feasible site and facility alternatives which achieve the basic objectives of the proposed project but would avoid or substantially lessen potentially significant environmental impacts. [Cal. Code Regs., tit. 14, §§ 15126.6(c) and (e); see *also*, tit. 20, § 1765.]

Selection of alternatives for evaluation, including the "No Project" alternative, is governed by the "rule of reason" and need not include those alternatives whose effects cannot be reasonably ascertained or whose implementation is remote and speculative. [Cal. Code Regs., tit. 14, § 15126.6(f).] Only alternatives that the "lead agency determines could feasibly attain most of the basic objectives of the project" [Cal. Code Regs., tit. 14, § 15126.6(f)] are compared with the proposed site and facility in conducting the alternatives analysis.

The Applicant provided an 'alternatives analysis' in the AFC and related data responses (Ex. 5), describing the site selection process and project configuration in light of project objectives. Staff included a similar analysis in the FSA. (Ex. 200, pp. 6.1 - 6.12.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The City of Victorville's project objectives are to provide an efficient, reliable, and environmentally sound power generating facility to meet future electrical power needs of the rapidly growing city of Victorville and surrounding area, as well as provide additional generating capacity for the state and region as a whole; to locate the facility within the boundaries of the city of Victorville and under city ownership and control, so that the city can increase its level of assurance that the future electrical power needs of residential, commercial and industrial users in

the city can be met, while at the same time supplying power to the regional grid; to use solar technology to generate a portion of the facility's power output and thereby support the State of California's goal of increasing the percentage of renewable energy in the state's electricity mix; to integrate the solar component of the project and its combined-cycle component in a way that maximizes the synergies between the two technologies to increase project efficiency; and to site the facility within the SCLA Specific Plan Area, a location zoned and planned for industrial use in an already established industrial area with ready access both to adequate supplies of non-potable water to meet the facility's process water needs and to a natural gas pipeline that can supply the project without requiring significant modifications to the regional gas supply system. (Ex. 200, p. 6-3.)

Three alternative site locations were identified and analyzed. All three sites are in the general vicinity of the High Desert Power Plant, as the Applicant determined the sites had a close proximity to available transmission capacity, natural gas supply source and reclaimed water source to serve as the primary source of cooling and other industrial water. The alternative sites are **Alternative Site A**, located near and to the southwest of the proposed site, adjacent to and south of Colusa Road, near the end of the SCLA's north-south runway; **Alternative Site B**, located approximately two miles west of the proposed site and slightly to the north; it is the only alternative site not located within the city of Victorville and **Alternative Site C**, located immediately south of Air Expressway in Victorville, approximately five miles south and slightly west of the proposed site. (Ex. 200 p. 6-6.)

1. Alternative Site A

This alternative site is located near and to the southwest of the proposed site, adjacent to Colusa Road. It is located near the end of the SCLA's north-south runway and on a direct line with aircraft approach and take-off patterns using that runway.

Advantages: The alternative site is similar to the proposed site; flat and undeveloped, large enough to accommodate the proposed combined cycle and solar facilities and within reasonable proximity to access natural gas, primary and backup cooling water supply sources and transmission system interconnection locations. The site is located within the SCLA planning area, and land use is compatible with existing industrial development.

Disadvantages: Although the site would likely meet the FAA requirements in terms of height restrictions compared to the height of the project facilities themselves, a disadvantage to this site is that turbulence caused by the heat recovery steam generator stacks and cooling tower could affect cargo planes on approach to SCLA Runway 17/35. The FAA has recommended that aircraft do not fly over plume-generating industrial sites at less than 1,000 feet above ground level, which could occur if Site A were developed without mitigation. As a result, this site was determined less desirable for the proposed project considering Site A would be immediately north of SCLA Runway 17/35 and could present some turbulence issues. Alternative Site A would not avoid or substantially lessen the environmental effects of the proposed project, and thus is not being further considered.

2. Alternative Site B

This alternative site is located approximately two miles northwest of the proposed project site, outside the city of Victorville, in an unincorporated part of San Bernardino County. Colusa Road is the northern boundary of the alternative site.

Advantages: The alternative site is similar to the proposed site; flat and undeveloped, large enough to accommodate the proposed combined cycle and solar facilities and within reasonable proximity to access natural gas, primary and backup cooling water supply sources and transmission system interconnection locations.

Disadvantages: The alternative site has the disadvantage of not being within the city of Victorville and therefore not located within the city's designated redevelopment area. Placing the project at this site would not support the ongoing redevelopment process outlined in the city's General Plan. This site would require longer linear features to supply cooling/process water, sanitary wastewater disposal and fuel gas supply pipelines, as well as longer transmission lines, which would increase project costs and potential impacts. For these reasons, and that Alternative Site B would not avoid or substantially lessen the environmental effects of the proposed project, this site is not being further considered.

3. Alternative Site C

This alternative site is located south of the SCLA site; approximately five miles south and slightly west of the proposed site, with Air Expressway Boulevard bordering the north side of the site.

Advantages: The alternative site is similar to the proposed site; flat and undeveloped, large enough to accommodate the proposed combined cycle and solar facilities and within reasonable proximity to access natural gas, primary and backup cooling water supply sources and transmission system interconnection locations.

Disadvantages: The alternative site would require several additional miles of gas pipeline, as well as primary and backup water supply lines, resulting in increased costs and potential impacts. In addition, the site is located closer to non-industrial land uses and existing and potential planned development. This site is considered less suitable, and would not avoid or substantially lessen the environmental effects of the proposed project. Therefore, Alternative Site C is not being further considered.

4. Conservation Alternative

One alternative to meeting California's electricity demand with new generation is to reduce the demand for electricity. Such "demand side" measures include programs that increase energy efficiency, reduce electricity use, or shift electricity use away from peak hours of demand.

Despite the great variety of federal, state, and local demand side management programs, which have been effective in keeping per capita electricity consumption from increasing over the last 30 years, the state's overall electricity use continues to increase as a result of population growth and business expansion. Current demand-side programs are not sufficient to satisfy future electricity needs, nor is it likely that even much more aggressive demand side programs could accomplish this at the economic and population growth rates of the last ten years. Therefore, although it is likely that federal, state, and local demand side programs will receive even greater emphasis in the future, both new generation and new transmission facilities are needed in order to maintain adequate supplies.

5. No Project Alternative

CEQA requires an evaluation of the No Project alternative "... to allow decision-makers to compare the impacts of approving the proposed project with the impacts of not approving the proposed project." [14 Cal. Code Regs., § 15126.6(e)(1).] The No Project analysis assumes: (a) that baseline environmental conditions would not change because the proposed project would not be built; and (b) that the events or actions reasonably expected to occur in the foreseeable future would occur whether or not the project is approved.

While no project-related impacts would be created under the No Project scenario, the evidentiary record shows that all potentially significant impacts could be

avoided or mitigated. If this project is not built, the same market conditions that led to its proposal will still exist, leaving open the possibility that other similar projects could be proposed in the absence of this project. The Commission can reasonably expect California's need for new electric power plants to be filled with or without the proposed project, and there is no reason to assume that the total amount of capacity eventually built would differ with or without this project.

The extent to which older, less efficient generation capacity will be replaced by newer, more efficient capacity should be the same with or without this project. The extent to which generation from existing power plants would consume fuel and emit pollutants should be the same with or without this project. This project would provide additional generating capacity contributing towards development of renewable energy for the state and region as a whole.

The "no project" alternative would eliminate the expected economic benefits that the proposed project would bring to the region, including employment, sales taxes, and sales of services, manufactured goods, and equipment.

The "no project" alternative would be environmentally superior to the project, if not mitigated, because the original proposal could have had significant environmental impacts on local and regional air quality, biological resources and agricultural lands. However, implementation of the mitigation measures described in this decision will reduce any impacts to less than significant levels, and economic benefits will be derived from the project. Therefore, the Commission concludes that the "no project" alternative is not the preferred alternative.

6. Alternative Fuels and Technologies

Various alternative technologies were compared with the proposed project, scaled to meet the project's objectives. Technologies examined were those

principal electricity generation technologies which do not burn fossil fuels—solar, wind, geothermal, biomass and hydropower. Both solar and wind generation have no emissions and no visible plumes. In the case of biomass, however, emissions can be substantially greater. Water consumption for both solar and wind is substantially less than for a natural gas-fired plant because there is no thermal cooling requirement.

Power plants using all solar technology, whether solar-thermal or photovoltaic, require large areas of land for equipment. Based on the proposed project's solar efficiency of requiring about 250 acres for producing 50 MW, in order to create a source of power generation equivalent to the proposed project capacity of 563 MW, approximately 2,800 acres of land would have to be disturbed for an all-solar alternative project. If a larger area could be acquired and dedicated for a solar project, among the most significant benefits would be eliminating air emissions and noise during project operations. Among the negative effects would be the greater loss of habitat for desert tortoise and other species of concern. While an all-solar energy project would utilize an available renewable natural resource within a region of California where its potential for power production is among the highest in the state (Ex. 200, p. 6-9), an all-solar energy project would not fully meet the project objective of providing a reliable source of power generation that would supply electrical energy night and day.

Wind generation similarly consumes large amounts of land and can only be sited where steady winds are prevalent. The amount of land needed would be significantly more than the amount of land used by the proposed project. With these characteristics, wind energy generation is not feasible in this location.

Many biomass facilities would be required to meet the project goal of generating 563 MW. Land and project infrastructure impacts would be significantly more damaging to the environment than the proposed project. Emissions from the large number of generating units would be greater than the proposed project, and

air quality standards would not be achievable. Geothermal facilities can only be sited where naturally-occurring geothermal resources exist—and none exist at the proposed site. Hydropower facilities require large quantities of water (either stored or flowing water), and sufficient topography to allow power generation as water drops in elevation and flows through a turbine. Neither the water resources nor the topographic conditions are present in the project region. (Ex. 200, pp. 6-8 – 6-9.)

We find that alternative technologies do not currently present feasible alternatives to the proposed project, since the major objective of the Victorville 2 project is to provide 563 MW of electricity with minimal impacts to the environment and the public.

FINDINGS AND CONCLUSIONS

Based upon the evidence, we find and conclude as follows:

1. The evidence contains an acceptable analysis of a reasonable range of alternatives to the project as proposed.
2. The evidence contains an adequate review of alternative sites, fuels, technologies, and the “no project” alternative.
3. Alternative fuels and technologies are not currently capable of meeting project objectives.
4. Current demand-side programs are not sufficient to satisfy future electricity needs.
5. No site alternative meets the stated project objectives and applicable siting criteria better than the proposed site.
6. The “no project” alternative would not avoid or substantially lessen potentially significant environmental impacts since no unmitigable impacts have been established.
7. The “no project” alternative would not provide electrical system benefits.
8. If all Conditions of Certification contained in this Decision are implemented, construction and operation of the project will not create any significant direct, indirect, or cumulative environmental impacts.

We conclude, therefore, that the evidence contains a sufficient analysis of alternatives and complies with the requirements of the California Environmental Quality Act, the Warren-Alquist Act, and their respective regulations. No Conditions of Certification are required for this analysis.

III. COMPLIANCE AND CLOSURE

Public Resources Code section 25532 requires the Commission to establish a post-certification monitoring system. The purpose of this requirement is to assure that certified facilities are constructed and operated in compliance with applicable laws, ordinances, regulations, standards, as well as the specific Conditions of Certification adopted as part of this Decision.

SUMMARY OF THE EVIDENCE

The evidence of record contains a full explanation of the purposes and intent of the Compliance Plan (Plan). The Plan is the administrative mechanism used to ensure that the Victorville 2 Project is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and expectations of the Project Owner and the Staff Compliance Project Manager (CPM) in implementing the design, construction, and operation criteria set forth in this Decision.

Compliance with the Conditions of Certification contained in this Decision is verified through mechanisms such as periodic reports and site visits. The Plan also contains requirements governing the planned closure, as well as the unexpected temporary and unexpected permanent closure, of the Project.

The Compliance Plan is composed of two broad elements. The first element establishes the "General Conditions," which:

- set forth the duties and responsibilities of the Compliance Project Manager (CPM), the Project Owner, delegate agencies, and others;
- set forth the requirements for handling confidential records and maintaining the compliance record;
- set forth procedures for settling disputes and making post-certification changes;

- set forth the requirements for periodic compliance reports and other administrative procedures necessary to verify the compliance status of all Commission imposed Conditions; and
- set forth requirements for facility closure.

The second general element of the Plan contains the specific “Conditions of Certification.” These are found following the summary and discussion of each individual topic area in this Decision. The individual Conditions contain the measures required to mitigate potentially adverse Project impacts associated with construction, operation, and closure to levels of insignificance. Each Condition also includes a verification provision describing the method of assuring that the Condition has been satisfied.

The contents of the Compliance Plan are intended to be implemented in conjunction with any additional requirements contained in the individual Conditions of Certification.

FINDINGS AND CONCLUSIONS

The evidence of record establishes:

1. The Compliance Plan and the specific Conditions of Certification contained in this Decision assure that the Victorville 2 Project will be designed, constructed, operated, and closed in conformity with applicable law.
2. Requirements contained in the Compliance Plan and in the specific Conditions of Certification are intended to be implemented in conjunction with one another.

We therefore conclude that the compliance and monitoring provisions incorporated as a part of this Decision satisfy the requirements of Public Resources Code section 25532. Furthermore, we adopt the following Compliance Plan as part of this Decision.

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

To ensure consistency, continuity and efficiency, the following terms, as defined, apply to all technical areas, including Conditions of Certification:

Site Mobilization

Site mobilization is limited preconstruction activities at the site to allow for the installation of construction trailers, construction trailer utilities, and construction trailer parking at the site. Limited ground disturbance, grading, and trenching associated with the above mentioned pre-construction activities is considered part of site mobilization. Fencing for the site is also considered part of site mobilization. Walking, driving or parking a passenger vehicle, pickup truck and light vehicles is allowable during site mobilization.

Ground Disturbance

On-site activity that results in the removal of soil or vegetation, boring, trenching or alteration of the site surface. This does not include driving or parking a passenger vehicle, pickup truck, or other light vehicle, or walking on the site.

Grading

Construction-related grading, boring, and trenching refers to activities that result in subsurface soil work at the site and for access roads and linear facilities, e.g., alteration of the topographical features such as leveling, removal of hills or high spots, moving of soil from one area to another, and removal of soil.

Construction

[Consistent with Public Resources Code section 25105.] On-site work to install permanent equipment or structures for any facility. Construction does **not** include the following:

1. The installation of environmental monitoring equipment;
2. A soil or geological investigation;
3. A topographical survey;
4. Any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; and
5. Any work to provide access to the site for any of the purposes specified in "Construction" 1, 2, 3, or 4 above.

Start of Commercial Operation

For compliance monitoring purposes, “commercial operation” begins after the completion of start-up and commissioning, where the power plant has reached reliable steady-state production of electricity at the rated capacity. For example, at the start of commercial operation, plant control is usually transferred from the construction manager to the plant operations manager.

COMPLIANCE PROJECT MANAGER RESPONSIBILITIES

The CPM will oversee the compliance monitoring and shall be responsible for:

1. Ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and conditions of the Energy Commission Decision;
2. Resolving complaints;
3. Processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
4. Documenting and tracking compliance filings; and
5. Ensuring that the compliance files are maintained and accessible.

The CPM is the contact person for the Energy Commission and will consult with appropriate responsible agencies and the Energy Commission when handling disputes, complaints and amendments.

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a condition of certification requires CPM approval, the approval will involve all appropriate Energy Commission staff and management.

The public may contact the Energy Commission about power plant construction or operation-related questions, complaints, or concerns at **1-800-858-0784**. Information is also available on the Energy Commission’s web page at: **[www.energy.ca.gov/sitingcases/power_plants_contacts.html]**

Pre-construction and Pre-operation Compliance Meeting

The CPM usually schedules pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings will be to assemble both the Energy Commission’s and the project owner’s technical staff to review the status of all pre-construction or pre-operation requirements contained in the Energy Commission’s conditions of certification to confirm that they have been met, or if they have not been met, to ensure that the proper action is taken. In addition,

these meetings ensure, to the extent possible, that Energy Commission conditions will not delay the construction and operation of the plant due to oversight, and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process must be publicly noticed unless they are confined to administrative issues and processes.

Energy Commission Record

The Energy Commission shall maintain as a public record, in either the Compliance file or Dockets file, for the life of the project:

- All documents demonstrating compliance with any legal requirements relating to the construction and operation of the facility;
- All monthly and annual compliance reports filed by the project owner;
- All complaints of noncompliance filed with the Energy Commission; and
- All petitions for project or condition of certification changes and the resulting staff or Energy Commission action.

PROJECT OWNER RESPONSIBILITIES

The project owner is responsible for ensuring that the compliance conditions of certification and all of the other conditions of certification that appear in the Commission Decision are satisfied. The compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, conditions of certification, or ownership. Failure to comply with any of the conditions of certification or the compliance conditions may result in reopening of the case and revocation of Energy Commission certification, an administrative fine, or other action as appropriate. A summary of the Compliance Conditions of Certification is included as **Compliance Table 1** at the conclusion of this section. The designation after each of the following summaries of the General Compliance Conditions (**COM-1**, **COM-2**, etc.) refers to the specific General Compliance Condition contained in **Compliance Table 1**.

Access, Compliance Condition of Certification-1 (COM-1)

The CPM, responsible Energy Commission staff, and delegate agencies or consultants shall be guaranteed and granted unrestricted access to the power plant site, related facilities, project-related staff, and the records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

Compliance Record (COM-2)

The project owner shall maintain project files onsite or at an alternative site approved by the CPM, for the life of the project unless a lesser period of time is specified by the conditions of certification. The files shall contain copies of all “as-built” drawings, all documents submitted as verification for conditions, and all other project-related documents.

Energy Commission staff and delegate agencies shall, upon request to the project owner, be given unrestricted access to the files.

Compliance Verification Submittals (COM-3)

Each condition of certification is followed by a means of verification. The verification describes the Energy Commission’s procedure(s) to ensure post-certification compliance with adopted conditions. The verification procedures, unlike the conditions, may be modified as necessary by the CPM without full Energy Commission approval.

Verification of compliance with the conditions of certification can be accomplished by:

1. reporting on the work done and providing the pertinent documentation in monthly and/or annual compliance reports filed by the project owner or authorized agent as required by the specific conditions of certification;
2. providing appropriate letters from delegate agencies verifying compliance;
3. Energy Commission staff audits of project records; and/or
4. Energy Commission staff inspections of work or other evidence that the requirements are satisfied.

Verification lead times (e.g., 90, 60 and 30-days) associated with start of construction may require the project owner to file submittals during the certification process, particularly if construction is planned to commence shortly after certification.

A cover letter from the project owner or authorized agent is required for all compliance submittals and correspondence pertaining to compliance matters. **The cover letter subject line shall identify the involved condition(s) of certification by condition number and include a brief description of the subject of the submittal.** The project owner shall also identify those submittals **not** required by a condition of certification with a statement such as: “This submittal is for information only and is not required by a specific condition of certification.” When submitting supplementary or corrected information, the project owner shall reference the date of the previous submittal.

The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or an agent of the project owner.

All submittals shall be addressed as follows:

**Steve Munro
Compliance Project Manager
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814**

If the project owner desires Energy Commission staff action by a specific date, it shall so request in its submittal cover letter and include a detailed explanation of the effects on the project if this date is not met.

Pre-Construction Matrix and Tasks Prior to Start of Construction (COM-4)

Prior to commencing construction, a compliance matrix addressing only those conditions that must be fulfilled before the start of construction shall be submitted by the project owner to the CPM. This matrix will be included with the project owner's **first** compliance submittal or prior to the first pre-construction meeting, whichever comes first. It will be in the same format as the compliance matrix described below.

Construction shall not commence until the pre-construction matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing construction. Various lead times (e.g., 30, 60, 90 days) for submittal of compliance verification documents to the CPM for conditions of certification are established to allow sufficient staff time to review and comment and, if necessary, allow the project owner to revise the submittal in a timely manner. This will ensure that project construction may proceed according to schedule.

Failure to submit compliance documents within the specified lead-time may result in delays in authorization to commence various stages of project development.

If the project owner anticipates starting project construction as soon as the project is certified, it may be necessary for the project owner to file compliance submittals prior to project certification. This is important if the required lead-time for a required compliance event extends beyond the date anticipated for start of construction. It is also important that the project owner understand that the submittal of compliance documents prior to project certification is at the owner's own risk. Any approval by Energy Commission staff is subject to change based upon the Commission Decision.

Compliance Reporting

There are two different compliance reports that the project owner must submit to assist the CPM in tracking activities and monitoring compliance with the terms and conditions of the Energy Commission Decision. During construction, the project owner or authorized agent will submit Monthly Compliance Reports. During operation, an Annual Compliance Report must be submitted. These reports, and the requirement for an accompanying compliance matrix, are described below. The majority of the conditions of certification require that compliance submittals be submitted to the CPM in the monthly or annual compliance reports.

Compliance Matrix (COM-5)

A compliance matrix shall be submitted by the project owner to the CPM along with each monthly and annual compliance report. The compliance matrix is intended to provide the CPM with the current status of all conditions of certification in a spreadsheet format. The compliance matrix must identify:

1. The technical area;
2. The condition number;
3. A brief description of the verification action or submittal required by the condition;
4. The date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.);
5. The expected or actual submittal date;
6. The date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable; and
7. The compliance status of each condition, e.g., “not started,” “in progress” or “completed” (include the date).

Satisfied conditions do not need to be included in the compliance matrix after they have been identified as satisfied in at least one monthly or annual compliance report.

Monthly Compliance Report (COM-6)

The first Monthly Compliance Report is due one month following the Energy Commission business meeting date upon which the project was approved, unless otherwise agreed to by the CPM. The first Monthly Compliance Report shall include an initial list of dates for each of the events identified on the **Key Events List**. **The Key Events List Form is found at the end of this section.**

During pre-construction and construction of the project, the project owner or authorized agent shall submit an original and eight copies of the Monthly Compliance Report within 10 working days after the end of each reporting month. Monthly Compliance Reports shall be clearly identified for the month being reported. The reports shall contain, at a minimum:

1. A summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. Documents required by specific conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, and submitted as attachments to the Monthly Compliance Report;
3. An initial, and thereafter updated, compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);
4. A list of conditions that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the condition;
5. A list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;
6. A cumulative listing of any approved changes to conditions of certification;
7. A listing of any filings submitted to, or permits issued by, other governmental agencies during the month;
8. A projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with conditions of certification;
9. A listing of the month's additions to the on-site compliance file; and
10. A listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolution of the resolved actions, and the status of any unresolved actions.

Annual Compliance Report (COM-7)

After construction is complete, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the project unless otherwise specified by the CPM. Each Annual Compliance Report shall identify the reporting period and shall contain the following:

1. An updated compliance matrix showing the status of all conditions of certification (fully satisfied conditions do not need to be included in the matrix after they have been reported as completed);
2. A summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
3. Documents required by specific conditions to be submitted along with the Annual Compliance Report. Each of these items must be identified in the transmittal letter, and submitted as attachments to the Annual Compliance Report;
4. A cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
5. An explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
6. A listing of filings submitted to, or permits issued by, other governmental agencies during the year;
7. A projection of project compliance activities scheduled during the next year;
8. A listing of the year's additions to the on-site compliance file;
9. An evaluation of the on-site contingency plan for unplanned facility closure, including any suggestions necessary for bringing the plan up to date [see Compliance Conditions for Facility Closure addressed later in this section]; and
10. A listing of complaints, notices of violation, official warnings, and citations received during the year, a description of the resolution of any resolved matters, and the status of any unresolved matters.

Confidential Information (COM-8)

Any information that the project owner deems confidential shall be submitted to the Energy Commission's Dockets Unit with an application for confidentiality pursuant to Title 20, California Code of Regulations, section 2505(a). Any information that is determined to be confidential shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

Annual Energy Facility Compliance Fee (COM-9)

Pursuant to the provisions of Section 25806(b) of the Public Resources Code, the project owner is required to pay an annual compliance fee, which is adjusted annually. The amount of the fee for FY2007-2008 was \$17,676. The initial payment is due on the date the Energy Commission adopts the final decision. You will be notified of the amount due. All subsequent payments are due by July

1 of each year in which the facility retains its certification. The payment instrument shall be made payable to the California Energy Commission and mailed to: Accounting Office MS-02, California Energy Commission, 1516 9th St., Sacramento, CA 95814.

Reporting of Complaints, Notices, and Citations (COM-10)

Prior to the start of construction, the project owner must send a letter to property owners living within one mile of the project notifying them of a telephone number to contact project representatives with questions, complaints or concerns. If the telephone is not staffed 24 hours per day, it shall include automatic answering with date and time stamp recording. All recorded complaints shall be responded to within 24 hours. The telephone number shall be posted at the project site and made easily visible to passersby during construction and operation. The telephone number shall be provided to the CPM who will post it on the Energy Commission's web page at:

http://www.energy.ca.gov/sitingcases/power_plants_contacts.html

Any changes to the telephone number shall be submitted immediately to the CPM, who will update the web page.

In addition to the monthly and annual compliance reporting requirements described above, the project owner shall report and provide copies to the CPM of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt. Complaints shall be logged and numbered. Noise complaints shall be recorded on the form provided in the **NOISE** conditions of certification. All other complaints shall be recorded on the complaint form (Attachment A).

FACILITY CLOSURE

At some point in the future, the project will cease operation and close down. At that time, it will be necessary to ensure that the closure occurs in such a way that public health and safety and the environment are protected from adverse impacts. Although the project setting for this project does not appear, at this time, to present any special or unusual closure problems, it is impossible to foresee what the situation will be in 30 years or more when the project ceases operation. Therefore, provisions must be made that provide the flexibility to deal with the specific situation and project setting that exist at the time of closure. Laws, Ordinances, Regulations and Standards (LORS) pertaining to facility closure are identified in the sections dealing with each technical area. Facility closure will be consistent with LORS in effect at the time of closure.

There are at least three circumstances in which a facility closure can take place: planned closure, unplanned temporary closure and unplanned permanent closure.

CLOSURE DEFINITIONS

Planned Closure

A planned closure occurs when the facility is closed in an anticipated, orderly manner, at the end of its useful economic or mechanical life, or due to gradual obsolescence.

Unplanned Temporary Closure

An unplanned temporary closure occurs when the facility is closed suddenly and/or unexpectedly, on a short-term basis, due to unforeseen circumstances such as a natural disaster or an emergency.

Unplanned Permanent Closure

An unplanned permanent closure occurs if the project owner closes the facility suddenly and/or unexpectedly, on a permanent basis. This includes unplanned closure, where the owner remains responsible for implementing the on-site contingency plan. It can also include unplanned closure where the project owner is unable to implement the contingency plan, and the project is essentially abandoned.

COMPLIANCE CONDITIONS FOR FACILITY CLOSURE

Planned Closure (COM-11)

In order to ensure that a planned facility closure does not create adverse impacts, a closure process that provides for careful consideration of available options and applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of closure, will be undertaken. To ensure adequate review of a planned project closure, the project owner shall submit a proposed facility closure plan to the Energy Commission for review and approval at least 12 months (or other period of time agreed to by the CPM) prior to commencement of closure activities. The project owner shall file 120 copies (or other number of copies agreed upon by the CPM) of a proposed facility closure plan with the Energy Commission.

The plan shall:

1. identify and discuss any impacts and mitigation to address significant adverse impacts associated with proposed closure activities and to address facilities, equipment, or other project related remnants that will remain at the site;
2. identify a schedule of activities for closure of the power plant site, transmission line corridor, and all other appurtenant facilities constructed as part of the project;
3. identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and

4. address conformance of the plan with all applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

Prior to submittal of the proposed facility closure plan, a meeting shall be held between the project owner and the Energy Commission CPM for the purpose of discussing the specific contents of the plan.

In the event that there are significant issues associated with the proposed facility closure plan's approval, or the desires of local officials or interested parties are inconsistent with the plan, the CPM shall hold one or more workshops and/or the Energy Commission may hold public hearings as part of its approval procedure.

As necessary, prior to or during the closure plan process, the project owner shall take appropriate steps to eliminate any immediate threats to public health and safety and the environment, but shall not commence any other closure activities until the Energy Commission approves the facility closure plan.

Unplanned Temporary Closure/On-Site Contingency Plan (COM-12)

In order to ensure that public health and safety and the environment are protected in the event of an unplanned temporary facility closure, it is essential to have an on-site contingency plan in place. The on-site contingency plan will help to ensure that all necessary steps to mitigate public health and safety impacts and environmental impacts are taken in a timely manner.

The project owner shall submit an on-site contingency plan for CPM review and approval. The plan shall be submitted no less than 60 days (or other time agreed to by the CPM) prior to commencement of commercial operation. The approved plan must be in place prior to commercial operation of the facility and shall be kept at the site at all times.

The project owner, in consultation with the CPM, will update the on-site contingency plan as necessary. The CPM may require revisions to the on-site contingency plan over the life of the project. In the annual compliance reports submitted to the Energy Commission, the project owner will review the on-site contingency plan, and recommend changes to bring the plan up to date. Any changes to the plan must be approved by the CPM.

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days, unless other arrangements are agreed to by the CPM, the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment, and the safe shutdown of all equipment. (Also see specific conditions of certification for the technical areas of Hazardous Materials Management and Waste Management.)

In addition, consistent with requirements under unplanned permanent closure addressed below, the nature and extent of insurance coverage, and major equipment warranties must also be included in the on-site contingency plan. In addition, the status of the insurance coverage and major equipment warranties must be updated in the annual compliance reports.

In the event of an unplanned temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, which have jurisdiction for health and safety matters, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the circumstances and expected duration of the closure.

If the CPM determines that an unplanned temporary closure is likely to be permanent, or for a duration of more than 12 months, a closure plan consistent with the requirements for a planned closure shall be developed and submitted to the CPM within 90 days of the CPM's determination (or other period of time agreed to by the CPM).

Unplanned Permanent Closure/On-Site Contingency Plan (COM-13)

The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure. In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the event of abandonment.

In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, which have jurisdiction for health and safety matters, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan. The project owner shall keep the CPM informed of the status of all closure activities.

A closure plan, consistent with the requirements for a planned closure, shall be developed and submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.

Post Certification Changes to the Energy Commission Decision: Amendments, Ownership Changes, Insignificant Project Changes and Verification Changes (COM-14)

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to modify the project (including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility. **It is the responsibility of**

the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant to section 1769. Implementation of a project modification without first securing Energy Commission, or Energy Commission staff approval, may result in enforcement action that could result in civil penalties in accordance with section 25534 of the Public Resources Code.

A petition is required for **amendments** and for **insignificant project changes** as specified below. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the CPM, who will file it with the Energy Commission's Dockets Unit in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of approval and the process that applies are explained below. They reflect the provisions of Section 1769 at the time this condition was drafted. If the Commission's rules regarding amendments are amended, the rules in effect at the time an amendment is requested shall apply.

Amendment

The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, Section 1769, when proposing modifications to the project (including linear facilities) design, operation, or performance requirements. If a proposed modification results in deletion or change of a condition of certification, creates a significant impact, or makes changes that would cause the project not to comply with any applicable laws, ordinances, regulations or standards, the petition will be processed as a formal amendment to the final decision, which requires public notice and review of the Energy Commission staff analysis, and approval by the full Commission. This process takes approximately two to three months to complete, and possibly longer for complex project modifications.

Change of Ownership

Change of ownership or operational control also requires that the project owner file a petition pursuant to section 1769 (b). This process takes approximately one month to complete, and requires public notice and approval by the full Commission.

Insignificant Project Change

Modifications that do not result in deletions or changes to conditions of certification, and that are compliant with laws, ordinances, regulations and standards may be authorized by the CPM as an insignificant project change pursuant to section 1769(a) (2). This process usually takes less than one month to complete, and it requires a 14-day public review of the Notice of Insignificant Project Change that includes staff's intention to approve the modification unless substantive objections are filed.

Verification Change

A verification may be modified by the CPM without requesting an amendment to the decision if the change does not conflict with the conditions of certification and provides an effective alternate means of verification. This process usually takes less than five working days to complete.

CBO DELEGATION AND AGENCY COOPERATION

In performing construction and operation monitoring of the project, Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). Energy Commission staff may delegate CBO responsibility to either an independent third party contractor or the local building official. Energy Commission staff retains CBO authority when selecting a delegate CBO, including enforcing and interpreting state and local codes, and use of discretion, as necessary, in implementing the various codes and standards.

Energy Commission staff may also seek the cooperation of state, regional and local agencies that have an interest in environmental protection when conducting project monitoring.

ENFORCEMENT

The Energy Commission's legal authority to enforce the terms and conditions of its Decision is specified in Public Resources Code sections 25534 and 25900. The Energy Commission may amend or revoke the certification for any facility, and may impose a civil penalty for any significant failure to comply with the terms or conditions of the Energy Commission Decision. The specific action and amount of any fines the Energy Commission may impose would take into account the specific circumstances of the incident(s). This would include such factors as the previous compliance history, whether the cause of the incident involves willful disregard of LORS, oversight, unforeseeable events, and other factors the Energy Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable LORS, delegate agencies are authorized to take any action allowed by law in accordance with their statutory authority, regulations, and administrative procedures.

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the conditions of certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1237. In many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint

procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by future law or regulations.

The Energy Commission has established a toll free compliance telephone number of **1-800-858-0784** for the public to contact the Energy Commission about power plant construction or operation-related questions, complaints or concerns.

Informal Dispute Resolution Procedure

The following procedure is designed to informally resolve disputes concerning the interpretation of compliance with the requirements of this compliance plan. The project owner, the Energy Commission, or any other party, including members of the public, may initiate this procedure for resolving a dispute. Disputes may pertain to actions or decisions made by any party, including the Energy Commission's delegate agents.

This procedure may precede the more formal complaint and investigation procedure specified in Title 20, California Code of Regulations, section 1237, but is not intended to be a substitute for, or prerequisite to it. This informal procedure may not be used to change the terms and conditions of certification as approved by the Energy Commission, although the agreed upon resolution may result in a project owner, or in some cases the Energy Commission staff, proposing an amendment.

The procedure encourages all parties involved in a dispute to discuss the matter and to reach an agreement resolving the dispute. If a dispute cannot be resolved, then the matter must be brought before the full Energy Commission for consideration via the complaint and investigation process. The procedure for informal dispute resolution is as follows:

Request for Informal Investigation

Any individual, group, or agency may request the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within seven working days of the CPM's request, provide a written report to the CPM of the results of the investigation, including corrective measures proposed or undertaken. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or

request the project owner to provide an initial report, within 48 hours, followed by a written report filed within seven days.

Request for Informal Meeting

In the event that either the party requesting an investigation or the Energy Commission staff is not satisfied with the project owner's report, investigation of the event, or corrective measures proposed or undertaken, either party may submit a written request to the CPM for a meeting with the project owner. Such request shall be made within 14 days of the project owner's filing of its written report. Upon receipt of such a request, the CPM shall:

1. Immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. Secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;
3. Conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and
4. After the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum that fairly and accurately identifies the positions of all parties and any conclusions reached. If an agreement has not been reached, the CPM shall inform the complainant of the formal complaint process and requirements provided under Title 20, California Code of Regulations, section 1230 et seq.

Formal Dispute Resolution Procedure-Complaints and Investigations

If either the project owner, Energy Commission staff, or the party requesting an investigation is not satisfied with the results of the informal dispute resolution process, such party may file a complaint with the Energy Commission's Dockets Unit. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1237.

KEY EVENTS LIST

PROJECT: _____

DOCKET #: _____

COMPLIANCE PROJECT MANAGER: _____

EVENT DESCRIPTION **DATE**

Certification Date	
Obtain Site Control	
Online Date	
POWER PLANT SITE ACTIVITIES	
Start Site Mobilization	
Start Ground Disturbance	
Start Grading	
Start Construction	
Begin Pouring Major Foundation Concrete	
Begin Installation of Major Equipment	
Completion of Installation of Major Equipment	
First Combustion of Gas Turbine	
Obtain Building Occupation Permit	
Start Commercial Operation	
Complete All Construction	
TRANSMISSION LINE ACTIVITIES	
Start T/L Construction	
Synchronization with Grid and Interconnection	
Complete T/L Construction	
FUEL SUPPLY LINE ACTIVITIES	
Start Gas Pipeline Construction and Interconnection	
Complete Gas Pipeline Construction	
WATER SUPPLY LINE ACTIVITIES	
Start Water Supply Line Construction	
Complete Water Supply Line Construction	

**Table 1 - Compliance Section
Summary of Compliance Conditions of Certification**

CONDITION NUMBER	SUBJECT	DESCRIPTION
COM-1	Unrestricted Access	The project owner shall grant Energy Commission staff and delegate agencies or consultants unrestricted access to the power plant site.
COM-2	Compliance Record	The project owner shall maintain project files on-site. Energy Commission staff and delegate agencies shall be given unrestricted access to the files.
COM-3	Compliance Verification Submittals	The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether such condition was satisfied by work performed by the project owner or his agent.
COM-4	Pre-construction Matrix and Tasks Prior to Start of Construction	Construction shall not commence until the all of the following activities/submittals have been completed: <ul style="list-style-type: none"> • property owners living within one mile of the project have been notified of a telephone number to contact for questions, complaints or concerns, • a pre-construction matrix has been submitted identifying only those conditions that must be fulfilled before the start of construction, • all pre-construction conditions have been complied with, • the CPM has issued a letter to the project owner authorizing construction.
COM-5	Compliance Matrix	The project owner shall submit a compliance matrix (in a spreadsheet format) with each monthly and annual compliance report which includes the status of all compliance conditions of certification.
COM-6	Monthly Compliance Report including	During construction, the project owner shall submit Monthly Compliance Reports (MCRs) which include specific information. The first MCR is due the month following the Energy

CONDITION NUMBER	SUBJECT	DESCRIPTION
	a Key Events List	Commission business meeting date on which the project was approved and shall include an initial list of dates for each of the events identified on the Key Events List.
COM-7	Annual Compliance Reports	After construction ends and throughout the life of the project, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports.
COM-8	Confidential Information	Any information the project owner deems confidential shall be submitted to the Energy Commission's Dockets Unit with a request for confidentiality.
COM-9	Annual fees	Payment of Annual Energy Facility Compliance Fee
COM-10	Reporting of Complaints, Notices and Citations	Within 10 days of receipt, the project owner shall report to the CPM, all notices, complaints, and citations.
COM-11	Planned Facility Closure	The project owner shall submit a closure plan to the CPM at least 12 months prior to commencement of a planned closure.
COM-12	Unplanned Temporary Facility Closure	To ensure that public health and safety and the environment are protected in the event of an unplanned temporary closure, the project owner shall submit an on-site contingency plan no less than 60 days prior to commencement of commercial operation.
COM-13	Unplanned Permanent Facility Closure	To ensure that public health and safety and the environment are protected in the event of an unplanned permanent closure, the project owner shall submit an on-site contingency plan no less than 60 days prior to commencement of commercial operation.
COM-14	Post-certification changes to the Decision	The project owner must petition the Energy Commission to delete or change a condition of certification, modify the project design or operational requirements and/or transfer ownership of operational control of the facility.

ATTACHMENT A

COMPLAINT REPORT/RESOLUTION FORM

PROJECT NAME: AFC Number:
COMPLAINT LOG NUMBER _____ Complainant's name and address: Phone number:
Date and time complaint received: Indicate if by telephone or in writing (attach copy if written): Date of first occurrence:
Description of complaint (including dates, frequency, and duration):
Findings of investigation by plant personnel: Indicate if complaint relates to violation of a CEC requirement: Date complainant contacted to discuss findings:
Description of corrective measures taken or other complaint resolution: Indicate if complainant agrees with proposed resolution: If not, explain: Other relevant information:
If corrective action necessary, date completed: Date first letter sent to complainant: _____ (copy attached) Date final letter sent to complainant: _____ (copy attached)
This information is certified to be correct. Plant Manager's Signature: _____ Date: _____

(Attach additional pages and supporting documentation, as required.)

IV. ENGINEERING ASSESSMENT

The engineering assessment conducted for the Victorville 2 project consisted of separate analyses that examined the design, engineering, efficiency, and reliability of the project. These analyses included the on-site power generating equipment and project-related facilities (natural gas supply pipeline, water supply pipelines, and transmission interconnection).

A. FACILITY DESIGN

The review of facility design covers several technical disciplines, including the civil, electrical, mechanical, and structural engineering elements related to project design, construction, and operation.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The AFC describes the preliminary facility design. (Exs. 27-29) In considering the adequacy of the design plans, the power plant and linear facilities are described with sufficient detail to assure the project can be designed and constructed in accordance with applicable engineering LORS. The description includes the identification of special design features that are necessary to deal with unique site conditions which could impact public health and safety, the environment, or the operational reliability of the project.

The Victorville 2 project will be built on a 275-acre site, located in the city of Victorville, San Bernardino County, approximately 3.5 miles east of Highway 395. The site lies in Seismic Zone 4.

We adopt Conditions of Certification that establish a design review and construction inspection process to verify compliance with applicable standards and requirements. In addition, the Conditions of Certification specify the roles, qualifications, and responsibilities of engineering personnel who will oversee

project design and construction. They require approval by the Chief Building Official (CBO) after appropriate inspections by qualified engineers, and no element of construction subject to CBO review may proceed without the CBO's approval. Engineering and compliance staff will invite the city of Victorville, San Bernardino County, or a third-party engineering consultant to act as CBO for this project. When an entity has been assigned CBO duties, Energy Commission staff will complete a memorandum of understanding (MOU) with that entity to outline both its roles and responsibilities and those of its subcontractors and delegates. (Ex. 200, p. 5.1-4)

Victorville 2 shall be designed and constructed to the 2007 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and other applicable codes and standards in effect when the design and construction of the project actually begin. If the initial designs are submitted to the chief building official (CBO) for review and approval after the update to the 2007 CBSC takes effect, the 2007 CBSC provisions shall be replaced with the updated provisions.

Potential geological hazards were also considered, and the evidence contains a review of preliminary project design, site preparation and development, major project structures, systems and equipment, mechanical systems, electrical systems, and related facilities.

The project will implement site preparation and development criteria consistent with accepted industry standards. This includes design practices and construction methods for grading, flood protection, erosion control, site drainage,

and site access. (Ex. 200, p. 5.1-3) Condition **CIVIL-1** ensures that these activities will be conducted in compliance with applicable LORS.

Major structures, systems, and equipment include those structures and associated components necessary for power production as well as facilities used for storage of hazardous or toxic materials. Condition **GEN-2** includes a list of the major structures and equipment included in the initial engineering design for the project.

The power plant site is located in Seismic Zone 4. (Ex. 200, p. 5.1-2) Certain structures in a power plant may be required, under the CBC, to undergo dynamic lateral force (structural) analysis; others may be designed using the simpler static analysis procedure. In order to ensure that structures are analyzed according to their appropriate lateral force procedure, we adopt Condition of Certification **STRUC-1** which, in part, requires the project owner to submit its proposed procedures to the CBO for review and approval prior to the start of construction.

We adopt Conditions of Certification **MECH-1** through **MECH-3** to ensure the project's mechanical systems will comply with appropriate standards, as well as Condition **ELEC-1** which ensures that design and construction of major electrical features will comply with applicable LORS.

The evidence also addresses facility closure. (Ex. 200, p. 5.1-5) To ensure that decommissioning of the facility will conform to applicable LORS to protect the environment and public health and safety, the project owner shall submit a decommissioning plan. This plan is described in the general closure provisions of the Compliance and Closure section of this Decision.

FINDINGS AND CONCLUSIONS

Based on the evidence, we make the following findings and conclusions:

1. The evidence contains sufficient information to establish that the proposed facility can be designed and constructed in conformity with the applicable laws, ordinances, regulations, and standards. This will occur through the use of design review, plan checking, and field inspections.
2. The Conditions of Certification below and the provisions of the Compliance and Closure Plan contained in this Decision set forth requirements to be followed in the event of the planned, the unexpected temporary, or the unexpected permanent closure of the facility.
3. The Conditions of Certification ensure that the project will be designed, constructed, and ultimately closed in a manner that protects environmental quality and public health and safety.

We therefore conclude that with the implementation of the Conditions of Certification listed below and elsewhere in this Decision, the Victorville 2 project will be designed and constructed in conformity with applicable laws pertinent to its geologic, civil, structural, mechanical, and electrical engineering aspects and will not cause any significant environmental impacts arising from its design or construction.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct, and inspect the project in accordance with the 2007 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval (the CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days previously). The project owner shall ensure that all the provisions of

the above applicable codes are enforced during the construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility [2007 CBC, Appendix Chapter 1, Section 101.2, Scope]. All transmission facilities (lines, switchyards, switching stations and substations) are covered in the Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this document.

In the event that the initial engineering designs are submitted to the CBO when the successor to the 2007 CBSC is in effect, the 2007 CBSC provisions shall be replaced with the applicable successor provisions. Where, in any specific case, different sections of the code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall govern.

The project owner shall ensure that all contracts with contractors, subcontractors, and suppliers clearly specify that all work performed and materials supplied comply with the codes listed above.

Verification: Within 30 days following receipt of the certificate of occupancy, the project owner shall submit to the CPM a statement of verification, signed by the responsible design engineer, attesting that all designs, construction, installation, and inspection requirements of the applicable LORS and the Energy Commission's decision have been met in the area of facility design. The project owner shall provide the CPM a copy of the certificate of occupancy within 30 days of receipt from the CBO [2007 CBC, Appendix Chapter 1, Section 110, Certificate of Occupancy].

Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance to be performed on any portion(s) of the completed facility that requires CBO approval for compliance with the above codes. The CPM will then determine if the CBO needs to approve the work.

GEN-2 Before submitting the initial engineering designs for CBO review, the project owner shall furnish the CPM and the CBO with a schedule of facility design submittals, and master drawing and master specifications lists. The schedule shall contain a list of proposed submittal packages of designs, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide specific packages to the CPM upon request.

Verification: At least 60 days (or a project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the master drawing and master specifications lists of documents to be submitted to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in **Facility Design Table 2**, below. Major

structures and equipment shall be added to or deleted from the table only with CPM approval. The project owner shall provide schedule updates in the monthly compliance report.

**Facility Design Table 2
Major Structures and Equipment List**

Equipment/System	Quantity (Plant)
Combustion Turbine (CT) Foundation and Connections	2
CT Generator Foundation and Connections	2
SCR Stack Structure Foundation, and Connections	2
CT Exhaust Duct Structure, Foundation, and Connections	2
CT Step-up Transformer Foundation and Connections	2
CT Auxiliary Skid Foundation and Connections	2
CT Inlet Air Filter House Structure Foundation, and Connections	2
Heat Recovery Steam Generator Structure	2
Heat Recovery Steam Generator Foundation and Connections	2
Heat Recovery Steam Generator High Pressure Tubing	2
Packaged Electrical Electronic Control Center Structure Foundation, and Connections	1
Generator Breaker Foundation and Connections	3
Auxiliary Transformer Foundation and Connections	2
Fuel Gas Compressors with Acoustical Enclosure Structure Foundation, and Connections	1
Black Start Diesel Generator Foundation and Connections	1
Air Compressor Skid Foundation and Connections	1
CO Catalyst Structure, Foundation, and Connections	2
CEMS Equipment Structure, Foundation and Connections	2
Ammonia Vaporizer Foundation and Connections	2
Ammonia Storage Tank Foundation and Connections	1
Ammonia Forwarding Pump Skid Foundation and Connections	2
Ammonia Injection Skid Foundation and Connections	2
Gas Filter/Separator Skid Foundation and Connections	2
Auxiliary Boiler Foundation and Connections	1
Cooling/Purge Air Fans Foundation and Connections	2
Solar Steam Boiler Foundation and Connections	1
Cooling Tower Structure, Foundation and Connections	1
Solar Heat Transfer Fluid Field Piping	1 Lot
Solar Heat Transfer Fluid Heater Foundation and Connections	1
Cooling Tower Circulating Water Pump Foundation and Connections	2
Recycled Water Storage Tank Foundation and Connections	1
Operations/Warehouse Building Structure, Foundation and Connections	1

Equipment/System	Quantity (Plant)
Water Treatment Building Structure, Foundation and Connections	1
Oil/Water Separator Foundation and Connections	1
Fire Water Pump Building Structure Foundation and Connections	1
Raw Water/Fire Water Storage Tank Structure, Foundation and Connections	1
Raw Water Pumps Foundation and Connections	2
Demineralized Water Storage Tank Structure, Foundation and Connections	1
Demineralized Water Pumps Foundation and Connections	2
Wastewater Collection Tank Structure, Foundation and Connections	1
Wastewater Drains Tank Structure, Foundation and Connections	2
Wastewater Forwarding Pumps Foundation and Connections	2
Equipment Firewall Structure, Foundation and Connections	2
Electrical Building Structure, Foundation and Connections	2
Cooling Tower Transformers Foundation and Connections	2
Cooling Tower MCC and Chemical Feed Building Structure, Foundation and Connections	1
Dead End Structure Foundation and Connections	2
Storm Water Retention Pond	1
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping and Pipe Racks	1 Lot
HVAC and Refrigeration Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
Building Energy Conservation Systems	1 Lot
Switchyard, Buses and Towers	1 Lot
Electrical Duct Banks	1 Lot

GEN-3 The project owner shall make payments to the CBO for design review, plan checks, and construction inspections, based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. These fees may be consistent with the fees listed in the 2007 CBC [2007 CBC, Appendix Chapter 1, Section 108, Fees; Chapter 1, Section 108.4, Permits, Fees, Applications and Inspections], adjusted for inflation and other appropriate adjustments; may be based on the value of the facilities reviewed; may be based on hourly rates; or may be otherwise agreed upon by the project owner and the CBO.

Verification: The project owner shall make the required payments to the CBO in accordance with the agreement between the project owner and the CBO. The project owner shall send a copy of the CBO's receipt of payment to the CPM in the next monthly compliance report indicating that applicable fees have been paid.

GEN-4 Prior to the start of rough grading, the project owner shall assign a California- registered architect, structural engineer, or civil engineer, as the resident engineer (RE) in charge of the project [2007 California Administrative Code, Section 4-209, Designation of Responsibilities]. All transmission facilities (lines, switchyards, switching stations, and substations) are addressed in the Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this document.

The RE may delegate responsibility for portions of the project to other registered engineers. Registered mechanical and electrical engineers may be delegated responsibility for mechanical and electrical portions of the project, respectively. A project may be divided into parts, provided that each part is clearly defined as a distinct unit. Separate assignments of general responsibility may be made for each designated part.

The RE shall:

1. Monitor progress of construction work requiring CBO design review and inspection to ensure compliance with LORS;
2. Ensure that construction of all facilities subject to CBO design review and inspection conforms in every material respect to applicable LORS, these Conditions of Certification, approved plans, and specifications;
3. Prepare documents to initiate changes in approved drawings and specifications when either directed by the project owner or as required by the conditions of the project;
4. Be responsible for providing project inspectors and testing agencies with complete and up-to-date sets of stamped drawings, plans, specifications, and any other required documents;
5. Be responsible for the timely submittal of construction progress reports to the CBO from the project inspectors, the contractor, and other engineers who have been delegated responsibility for portions of the project; and
6. Be responsible for notifying the CBO of corrective action or the disposition of items noted on laboratory reports or other tests when they do not conform to approved plans and specifications.

The RE shall have the authority to halt construction and to require changes or remedial work if the work does not meet requirements.

If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned engineer to the CBO for review and

approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

Verification: At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the resume and registration number of the RE and any other delegated engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the RE and other delegated engineer(s) within five days of the approval.

If the RE or the delegated engineer(s) is subsequently reassigned or replaced, the project owner has five days to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: a civil engineer; a soils, geotechnical, or civil engineer experienced and knowledgeable in the practice of soils engineering; and an engineering geologist. Prior to the start of construction, the project owner shall assign at least one of each of the following California registered engineers to the project: a design engineer who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; a mechanical engineer; and an electrical engineer. (California Business and Professions Code section 6704 et seq., and sections 6730, 6731 and 6736 require state registration to practice as a civil engineer or structural engineer in California). All transmission facilities (lines, switchyards, switching stations, and substations) are handled in the Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this document.

The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (for example, proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California registered electrical engineer.

The project owner shall submit, to the CBO for review and approval, the names, qualifications, and registration numbers of all responsible engineers assigned to the project [2007 CBC, Appendix Chapter 1, Section 104, Duties and Powers of Building Official].

If any one of the designated responsible engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications and registration number of the newly assigned responsible

engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

A. The civil engineer shall:

1. Review the foundation investigations, geotechnical, or soils reports prepared by the soils engineer, the geotechnical engineer, or by a civil engineer experienced and knowledgeable in the practice of soils engineering;
2. Design (or be responsible for the design of), stamp, and sign all plans, calculations, and specifications for proposed site work, civil works, and related facilities requiring design review and inspection by the CBO. At a minimum, these include: grading, site preparation, excavation, compaction, construction of secondary containment, foundations, erosion and sedimentation control structures, drainage facilities, underground utilities, culverts, site access roads and sanitary sewer systems; and
3. Provide consultation to the RE during the construction phase of the project and recommend changes in the design of the civil works facilities and changes to the construction procedures.

B. The soils engineer, geotechnical engineer, or civil engineer experienced and knowledgeable in the practice of soils engineering, shall:

1. Review all the engineering geology reports;
2. Prepare the foundation investigations, geotechnical, or soils reports containing field exploration reports, laboratory tests, and engineering analysis detailing the nature and extent of the soils that could be susceptible to liquefaction, rapid settlement or collapse when saturated under load [2007 CBC, Appendix J, Section J104.3, Soils Report; Chapter 18, Section 1802.2, Foundation and Soils Investigations]
3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with requirements set forth in the 2007 CBC, Appendix J, Section J105, Inspections, and the 2007 California Administrative Code, Section 4-211, Observation and Inspection of Construction (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both); and
4. Recommend field changes to the civil engineer and RE.

This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform to the predicted conditions used as the basis for design of earthwork or foundations [2007 CBC, Appendix Chapter 1, Section 114, Stop Orders].

C. The engineering geologist shall:

1. Review all the engineering geology reports and prepare a final soils grading report; and
2. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2007 California Administrative Code, Section 4-211, Observation and Inspection of Construction (depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both).

D. The design engineer shall:

1. Be directly responsible for the design of the proposed structures and equipment supports;
2. Provide consultation to the RE during design and construction of the project;
3. Monitor construction progress to ensure compliance with engineering LORS;
4. Evaluate and recommend necessary changes in design; and
5. Prepare and sign all major building plans, specifications, and calculations.

E. The mechanical engineer shall be responsible for, and sign and stamp a statement with, each mechanical submittal to the CBO, stating that the proposed final design plans, specifications, and calculations conform to all of the mechanical engineering design requirements set forth in the Energy Commission's decision.

F. The electrical engineer shall:

1. Be responsible for the electrical design of the project; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of rough grading, the project owner shall submit to

the CBO for review and approval, resumes and registration numbers of the responsible civil engineer, soils (geotechnical) engineer and engineering geologist assigned to the project.

At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of construction, the project owner shall submit to the CBO for review and approval, resumes and registration numbers of the responsible design engineer, mechanical engineer, and electrical engineer assigned to the project.

The project owner shall notify the CPM of the CBO's approvals of the responsible engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the resume and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

GEN-6 Prior to the start of an activity requiring special inspection, the project owner shall assign to the project, qualified and certified special inspector(s) who shall be responsible for the special inspections required by the 2007 CBC, Chapter 17, Section 1704, Special Inspections, Chapter 17A, Section 1704A, Special Inspections, and Appendix Chapter 1, Section 109, Inspections. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this document.

A certified weld inspector, certified by the American Welding Society (AWS), and/or American Society of Mechanical Engineers (ASME) as applicable, shall inspect welding performed on-site requiring special inspection (including structural, piping, tanks and pressure vessels).

The special inspector shall:

1. Be a qualified person who shall demonstrate competence, to the satisfaction of the CBO, for inspection of the particular type of construction requiring special or continuous inspection;
2. Observe the work assigned for conformance with the approved design drawings and specifications;
3. Furnish inspection reports to the CBO and RE. All discrepancies shall be brought to the immediate attention of the RE for correction, then, if uncorrected, to the CBO and the CPM for corrective action [2007 CBC, Chapter 17, Section 1704.1.2, Report Requirements]; and

4. Submit a final signed report to the RE, CBO, and CPM, stating whether the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans, specifications, and other provisions of the applicable edition of the CBC.

Verification: At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of an activity requiring special inspection, the project owner shall submit to the CBO for review and approval, with a copy to the CPM, the name(s) and qualifications of the certified weld inspector(s), or other certified special inspector(s) assigned to the project to perform one or more of the duties set forth above. The project owner shall also submit to the CPM a copy of the CBO's approval of the qualifications of all special inspectors in the next monthly compliance report.

If the special inspector is subsequently reassigned or replaced, the project owner has five days in which to submit the name and qualifications of the newly assigned special inspector to the CBO for approval. The project owner shall notify the CPM of the CBO's approval of the newly assigned inspector within five days of the approval.

GEN-7 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend required corrective actions [2007 CBC, Appendix Chapter 1, Section 109.6, Approval Required; Chapter 17, Section 1704.1.2, Report Requirements]. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification and, if appropriate, applicable sections of the CBC and/or other LORS.

Verification: The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next monthly compliance report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action to obtain CBO's approval.

GEN-8 The project owner shall obtain the CBO's final approval of all completed work that has undergone CBO design review and approval. The project owner shall request the CBO to inspect the completed structure and review the submitted documents. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or at an alternative site approved by the CPM during the operating life of the project [2007 CBC, Appendix Chapter 1, Section 106.3.1, Approval of Construction Documents]. Electronic copies of the approved plans,

specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.

Verification: Within 15 days of the completion of any work, the project owner shall submit to the CBO, with a copy to the CPM, in the next monthly compliance report, (a) a written notice that the completed work is ready for final inspection, and (b) a signed statement that the work conforms to the final approved plans. After storing the final approved engineering plans, specifications, and calculations described above, the project owner shall submit to the CPM a letter stating both that the above documents have been stored and the storage location of those documents.

Within 90 days of the completion of construction, the project owner shall provide to the CBO three sets of electronic copies of the above documents at the project owner's expense. These are to be provided in the form of "read only" (Adobe .pdf 6.0) files, with restricted (password-protected) printing privileges, on archive quality compact discs.

CIVIL-1 The project owner shall submit to the CBO for review and approval the following:

1. Design of the proposed drainage structures and the grading plan;
2. An erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
4. Soils, geotechnical, or foundation investigations reports required by the 2007 CBC, Appendix J, Section J104.3, Soils Report, and Chapter 18, Section 1802.2, Foundation and Soils Investigation.

Verification: At least 15 days (or project owner- and CBO-approved alternative time frame) prior to the start of site grading the project owner shall submit the documents described above to the CBO for design review and approval. In the next monthly compliance report following the CBO's approval, the project owner shall submit a written statement certifying that the documents have been approved by the CBO.

CIVIL-2 The resident engineer shall, if appropriate, stop all earthwork and construction in the affected areas when the responsible soils engineer, geotechnical engineer, or the civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications, and calculations to the CBO based on these new conditions. The project owner shall obtain approval from the CBO before resuming earthwork and construction in the affected area [2007 CBC, Appendix Chapter 1, Section 114, Stop Work Orders].

Verification: The project owner shall notify the CPM within 24 hours, when earthwork and construction is stopped as a result of unforeseen adverse geologic/soil conditions. Within 24 hours of the CBO's approval to resume earthwork and construction in the affected areas, the project owner shall provide to the CPM a copy of the CBO's approval.

CIVIL-3 The project owner shall perform inspections in accordance with the 2007 CBC, Appendix Chapter 1, Section 109, Inspections, and Chapter 17, Section 1704, Special Inspections. All plant site-grading operations, for which a grading permit is required, shall be subject to inspection by the CBO.

If, in the course of inspection, it is discovered that the work is not being performed in accordance with the approved plans, the discrepancies shall be reported immediately to the resident engineer, the CBO, and the CPM [2007 CBC, Chapter 17, Section 1704.1.2, Report Requirements]. The project owner shall prepare a written report, with copies to the CBO and the CPM, detailing all discrepancies, non-compliance items, and the proposed corrective action.

Verification: Within five days of the discovery of any discrepancies, the resident engineer shall transmit to the CBO and the CPM a non-conformance report (NCR), and the proposed corrective action for review and approval. Within five days of resolution of the NCR, the project owner shall submit the details of the corrective action to the CBO and the CPM. A list of NCRs, for the reporting month, shall also be included in the following monthly compliance report.

CIVIL-4 After completion of finished grading and erosion and sedimentation control and drainage work, the project owner shall obtain the CBO's approval of the final grading plans (including final changes) for the erosion and sedimentation control work. The civil engineer shall state that the work within his/her area of responsibility was done in accordance with the final approved plans [2007 CBC, Chapter 17, Section 1703.2, Written Approval].

Verification: Within 30 days (or project owner- and CBO-approved alternative time frame) of the completion of the erosion and sediment control mitigation and drainage work, the project owner shall submit to the CBO, for review and approval, the final grading plans (including final changes) and the responsible civil engineer's signed statement that the installation of the facilities and all erosion control measures were completed in accordance with the final approved combined grading plans, and that the facilities are adequate for their intended purposes, along with a copy of the transmittal letter to the CPM. The project owner shall submit a copy of the CBO's approval to the CPM in the next monthly compliance report.

STRUC-1 Prior to the start of any increment of construction of any major structure or component listed in **Facility Design Table 2** of condition of

certification **GEN 2**, above, the project owner shall submit to the CBO for design review and approval the proposed lateral force procedures for project structures and the applicable designs, plans and drawings for project structures. Proposed lateral force procedures, designs, plans and drawings shall be those for the following items (from **Table 2**, above):

1. Major project structures;
2. Major foundations, equipment supports, and anchorage; and
3. Large field-fabricated tanks.

Construction of any structure or component shall not begin until the CBO has approved the lateral force procedures to be employed in designing that structure or component.

The project owner shall:

1. Obtain approval from the CBO of lateral force procedures proposed for project structures;
2. Obtain approval from the CBO for the final design plans, specifications, calculations, soils reports, and applicable quality control procedures. If there are conflicting requirements, the more stringent shall govern (for example, highest loads, or lowest allowable stresses shall govern). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications [2007 CBC, Appendix Chapter 1, Section 109.6, Approval Required];
3. Submit to the CBO the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [2007 California Administrative Code, Section 4-210, Plans, Specifications, Computations and Other Data];
4. Ensure that the final plans, calculations, and specifications clearly reflect the inclusion of approved criteria, assumptions, and methods used to develop the design. The final designs, plans, calculations, and specifications shall be signed and stamped by the responsible design engineer [2007 CBC, Appendix Chapter 1, Section 106.3.4, Design Professional in Responsible Charge]; and
5. Submit to the CBO the responsible design engineer's signed statement that the final design plans conform to applicable LORS [2007 CBC, Appendix Chapter 1, Section 106.3.4, Design Professional in Responsible Charge].

Verification: At least 60 days (or project owner- and CBO-approved alternative time frame) prior to the start of any increment of construction of any structure or component listed in **Facility Design Table 2** of condition of certification **GEN-2**, above, the project owner shall submit to the CBO the above final design plans, specifications and calculations, with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM, in the next monthly compliance report, a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and comply with the requirements set forth in applicable engineering LORS.

STRUC-2 The project owner shall submit to the CBO the required number of sets of the following documents related to work that has undergone CBO design review and approval:

1. Concrete cylinder strength test reports (including date of testing, date sample taken, design concrete strength, tested cylinder strength, age of test, type and size of sample, location and quantity of concrete placement from which sample was taken, and mix design designation and parameters);
2. Concrete pour sign-off sheets;
3. Bolt torque inspection reports (including location of test, date, bolt size, and recorded torques);
4. Field weld inspection reports (including type of weld, location of weld, inspection of non-destructive testing (NDT) procedure and results, welder qualifications, certifications, qualified procedure description or number (ref: AWS); and
5. Reports covering other structural activities requiring special inspections shall be in accordance with the 2007 CBC, Chapter 17, Section 1704, Special Inspections, and Section 1709.1, Structural Observations.

Verification: If a discrepancy is discovered in any of the above data, the project owner shall, within five days, prepare and submit an NCR describing the nature of the discrepancies and the proposed corrective action to the CBO, with a copy of the transmittal letter to the CPM [2007 CBC, Chapter 17, Section 1704.1.2, Report Requirements]. The NCR shall reference the condition(s) of certification and the applicable CBC chapter and section. Within five days of resolution of the NCR, the project owner shall submit a copy of the corrective action to the CBO and the CPM.

The project owner shall transmit a copy of the CBO's approval or disapproval of the corrective action to the CPM within 15 days. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action to obtain CBO's approval.

STRUC-3 The project owner shall submit to the CBO design changes to the final plans required by the 2007 CBC, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give to the CBO prior notice of the intended filing [2007 CBC, Appendix Chapter 1, Section 106.1, Submittal Documents; Section 106.4, Amended Construction Documents; 2007 California Administrative Code, Section 4-215, Changes in Approved Drawings and Specifications].

Verification: On a schedule suitable to the CBO, the project owner shall notify the CBO of the intended filing of design changes, and shall submit the required number of sets of revised drawings and the required number of copies of the other above-mentioned documents to the CBO, with a copy of the transmittal letter to the CPM. The project owner shall notify the CPM, via the monthly compliance report, when the CBO has approved the revised plans.

STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in the 2007 CBC, Chapter 3, Table 307.1(2), shall, at a minimum, be designed to comply with the requirements of that chapter.

Verification: At least 30 days (or project owner- and CBO-approved alternate time frame) prior to the start of installation of the tanks or vessels containing the above specified quantities of toxic or hazardous materials, the project owner shall submit to the CBO for design review and approval final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification.

The project owner shall send copies of the CBO approvals of plan checks to the CPM in the following monthly compliance report. The project owner shall also transmit a copy of the CBO's inspection approvals to the CPM in the monthly compliance report following completion of any inspection.

MECH-1 The project owner shall submit, for CBO design review and approval, the proposed final design, specifications and calculations for each plant major piping and plumbing system listed in **Facility Design Table 2**, condition of certification **GEN-2**, above. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. The submittal shall also include the applicable QA/QC procedures. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of that construction [2007 CBC, Appendix Chapter 1, Section 106.1, Submittal Documents; Section 109.5, Inspection Requests; Section 109.6, Approval Required; 2007 California Plumbing Code, Section 301.1.1, Approvals].

The responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations for the major piping and plumbing systems, subject to CBO design review and approval, and submit a signed

statement to the CBO when the proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations and industry standards [2007 CBC, Appendix Chapter 1, Section 106.3.4, Design Professional in Responsible Charge], which may include, but are not limited to:

- American National Standards Institute (ANSI) B31.1 (Power Piping Code);
- ANSI B31.2 (Fuel Gas Piping Code);
- ANSI B31.3 (Chemical Plant and Petroleum Refinery Piping Code);
- ANSI B31.8 (Gas Transmission and Distribution Piping Code);
- Title 24, California Code of Regulations, Part 5 (California Plumbing Code);
- Title 24, California Code of Regulations, Part 6 (California Energy Code, for building energy conservation systems and temperature control and ventilation systems);
- Title 24, California Code of Regulations, Part 2 (California Building Code); and
- San Bernardino County codes.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [2007 CBC, Appendix Chapter 1, Section 103.3, Deputies].

Verification: At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of any increment of major piping or plumbing construction listed in **Facility Design Table 2**, condition of certification **GEN-2**, above, the project owner shall submit to the CBO for design review and approval the final plans, specifications, and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report.

The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying the CBO's inspection approvals.

MECH-2 For all pressure vessels installed in the plant, the project owner shall submit to the CBO and California Occupational Safety and Health Administration (Cal-OSHA), prior to operation, the code certification papers and other documents required by applicable LORS. Upon completion of the installation of any pressure vessel, the project owner shall request the appropriate CBO and/or Cal-OSHA inspection of that

installation [2007 CBC, Appendix Chapter 1, Section 109.5, Inspection Requests].

The project owner shall:

1. Ensure that all boilers and fired and unfired pressure vessels are designed, fabricated, and installed in accordance with the appropriate section of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, or other applicable code. Vendor certification, with identification of applicable code, shall be submitted for prefabricated vessels and tanks; and
2. Have the responsible design engineer submit a statement to the CBO that the proposed final design plans, specifications, and calculations conform to all of the requirements set forth in the appropriate ASME Boiler and Pressure Vessel Code or other applicable codes.

Verification: At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of on-site fabrication or installation of any pressure vessel, the project owner shall submit to the CBO for design review and approval, the above listed documents, including a copy of the signed and stamped engineer's certification, with a copy of the transmittal letter to the CPM.

The project owner shall transmit to the CPM, in the monthly compliance report following completion of any inspection, a copy of the transmittal letter conveying the CBO's and/or Cal-OSHA inspection approvals.

MECH-3 The project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations, and quality control procedures for any heating, ventilating, air conditioning (HVAC) or refrigeration system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of that construction. The final plans, specifications and calculations shall include approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications and calculations conform with the applicable LORS [2007 CBC, Appendix Chapter 1, Section 109.3.7, Energy Efficiency Inspections; Section 106.3.4, Design Professionals in Responsible Charge].

Verification: At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of construction of any HVAC or refrigeration system, the project owner shall submit to the CBO the required HVAC and refrigeration calculations, plans, and specifications, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with the CBC and other applicable codes, with a copy of the transmittal letter to the CPM.

ELEC-1 Prior to the start of any increment of electrical construction for all electrical equipment and systems 480 Volts or higher (see a representative list, below), with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit, for CBO design review and approval, the proposed final design, specifications, and calculations [2007 CBC, Appendix Chapter 1, Section 106.1, Submittal Documents]. Upon approval, the above listed plans, together with design changes and design change notices, shall remain on the site or at another accessible location for the operating life of the project. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS [2007 CBC, Appendix Chapter 1, Section 109.6, Approval Required; Section 109.5, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are handled in Conditions of Certification in the **TRANSMISSION SYSTEM ENGINEERING** section of this document.

A. Final plant design plans shall include:

1. one-line diagrams for the 13.8 kV, 4.16 kV and 480 V systems;
and
2. system grounding drawings.

B. Final plant calculations must establish:

1. short-circuit ratings of plant equipment;
2. ampacity of feeder cables;
3. voltage drop in feeder cables;
4. system grounding requirements;
5. coordination study calculations for fuses, circuit breakers and protective relay settings for the 13.8 kV, 4.16 kV and 480 V systems;
6. system grounding requirements; and

7. lighting energy calculations.
- C. The following activities shall be reported to the CPM in the monthly compliance report:
1. Receipt or delay of major electrical equipment;
 2. Testing or energization of major electrical equipment; and
 3. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission decision.

Verification: At least 30 days (or project owner- and CBO-approved alternative time frame) prior to the start of each increment of electrical construction, the project owner shall submit to the CBO for design review and approval the above listed documents. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting compliance with the applicable LORS, and shall send the CPM a copy of the transmittal letter in the next monthly compliance report.

B. POWER PLANT EFFICIENCY

In accordance with CEQA, the Commission must consider whether the project's consumption of energy in the form of non-renewable fuel will result in adverse environmental impacts on energy resources. [Cal. Code Regs., tit. 14, § 15126.4(a)(1), Appendix F.] This analysis reviews the efficiency of project design and examines whether the project will incorporate measures that prevent wasteful, inefficient, or unnecessary energy consumption.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Pursuant to CEQA, Staff analyzed whether the Victorville 2 use of natural gas would result in: 1) an adverse effect on local and regional energy supplies and resources; 2) whether any adverse impacts are significant; and 3) whether mitigation measures exist to reduce or eliminate wasteful, inefficient, or unnecessary consumption of fuel or energy. (Ex. 200, p. 5.3-1)

Under normal conditions, Victorville 2 will burn natural gas at a nominal rate of 2,975 million Btu per hour, LHV (lower heating value), during base load operation. The estimated fuel consumption under the same conditions with duct firing and the solar system turned off is 3,639 million Btu per hour, LHV. This is a substantial rate of energy consumption that could impact energy supplies.

Natural gas fuel will be supplied to the project by the Kern River system via a new pipeline connection. There appears to be no real likelihood that the project will require the development of additional energy supply capacity, since Kern River's regional natural gas supplies are considered plentiful. Therefore, it appears unlikely that the project could cause a substantial increase in demand for natural gas in California. (Ex. 200, pp. 5.3-2 – 5.3-3)

Victorville 2 will be a combined-cycle solar hybrid power plant. Electricity will be generated by two gas turbines and a reheat steam turbine operating on heat energy recovered from the gas turbines' exhaust. By recovering this heat, which would otherwise be lost up the exhaust stacks, the efficiency of any combined-cycle power plant is increased considerably from that of either gas turbines or a steam turbine operating alone. This configuration is well suited to the large, steady loads met by a base load plant that generates energy efficiently over long periods of time. The two-train combustion turbine/HRSG configuration is also highly efficient during unit turndown since one gas turbine can be shut down, leaving the other fully loaded. This allows the efficient operation of one gas turbine instead of the operation of two gas turbines operating at an inefficient 50 percent of load.

Victorville 2 also includes HRSG duct burners, which will replace heat to the steam turbine cycle during high ambient temperatures when gas turbine capacity drops (resulting in less heat available to the steam turbine cycle), and add power. Duct firing provides a number of additional operational benefits including load following and balancing and optimization of the steam cycle operation.

The project also utilizes parabolic solar thermal collector technology in which solar collectors track the sun and absorb its thermal energy. This heat is transferred to a heat transfer fluid circulating through a boiler, where the heat is used to generate high-pressure steam for the steam turbine. This system could replace the equivalent of approximately 50 MW of duct firing. The solar technology would enhance the project's overall efficiency by reducing the consumption of natural gas. (Ex. 200, pp. 5.3-3 – 5.3-4)

Under expected project conditions, electricity will be generated at a full load efficiency of approximately 59 percent LHV, with the solar system turned on, 52.7 percent LHV with the solar system off. (Ex. 200, p. 5.3-6) Use of the solar

system substantially increases system efficiency with no additional gas consumption.

Consideration of various alternative power plant equipment selections showed that any differences among them in actual operating efficiency would be insignificant. Selecting among these machines is thus based on other factors, such as generating capacity, cost, commercial availability, and ability to meet air pollution limitations. (Ex. 200, p. 5.3-4)

The only nearby power plant that could, in conjunction with Victorville 2, create cumulative energy consumption impacts, is the High Desert Power Project. The natural gas supply system, however, has enough capacity to supply both projects. No other projects that could contribute to cumulative energy impacts have been identified.

The construction and operation of the project would not create indirect impacts (in the form of additional fuel consumption), that would not have otherwise occurred without this project. Older, less efficient power plants consume more natural gas than new, more efficient plants such as Victorville 2 and are likely to be displaced by it. (Ex. 200, p. 5.3-7)

FINDINGS AND CONCLUSIONS

Based upon the evidence, we find and conclude as follows:

1. The Victorville 2 project will consist of two combined-cycle power trains with duct burners and a solar thermal augmentation.
2. Existing natural gas resources far exceed the fuel requirements of the project.
3. Victorville 2 will not consume natural gas in a wasteful, inefficient, or unnecessary manner.

4. The project configuration and choice of generating equipment represent an acceptable combination to achieve project objectives.
5. The project will not require additional sources of energy supply.
6. The project will have no significant impacts on energy resources.

The Commission therefore concludes that Victorville 2 will not cause any significant direct or indirect impacts on energy resources. No Conditions of Certification are required for this topic.

C. POWER PLANT RELIABILITY

We must determine whether the project will be designed, sited, and operated to ensure safe and reliable operation. [Pub. Resources Code, § 25520(b); Cal. Code Regs., tit. 20 § 1752(c)(2).] However, there are currently no laws, ordinances, regulations, or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation.

SUMMARY AND DISCUSSION OF THE EVIDENCE

A power plant is considered reliable if it does not degrade the reliability of the utility system to which it is connected, that is, it exhibits reliability at least equal to that of other power plants on the system. Reliable operation is a combination of factors, i.e., the power plant should be available when called upon to operate and it should be expected to operate for extended periods without shutdown for maintenance or repairs. Project safety and reliability are achieved by ensuring equipment availability, plant maintainability with scheduled maintenance outages, fuel and water availability, and adequate resistance to natural hazards.

The project owner will ensure equipment availability by use of quality assurance/quality control programs (QA/QC) typical of the power industry. These include inventory review and equipment inspection, as well as testing on a regular basis during design, procurement, construction, and operation. Qualified vendors of plant equipment and materials will be selected based on past performance and independent testing contracts to ensure that reliable equipment is acquired. To ensure implementation of the QA/QC programs, the **FACILITY DESIGN** portion of this Decision contains appropriate Conditions of Certification. (Ex. 200, p. 5.4-3)

The project's design includes appropriate redundancy of functions. The project's two combustion turbine-generators are configured as independent, parallel

equipment trains. This allows the facility to continue to operate at reduced output in the event that a non-redundant component in one train fails. Furthermore, all plant ancillary systems are also designed with adequate redundancy to ensure continued operation in the face of equipment failure. Project maintenance will be typical of the industry, including preventative and predictive techniques. Any necessary maintenance outages will be planned for periods of relatively low electricity demand. (Ex. 200, p. 5.4-4)

Reasonable long-term availability of fuel and water is also necessary to ensure project reliability. The project will be supplied natural gas through a new 12-inch diameter interconnection to an existing 24-inch gas line. The 24-inch gas line is shared with the High Desert Power Project and together the two projects would use approximately 87 percent of the line's capacity. Southern California Gas Company's natural gas transmission system has considerable capacity and offers access to adequate supplies of gas from the Southwest, the Rocky Mountains, and Canada. This natural gas system therefore offers adequate supply and pipeline capacity to meet project needs.

Victorville 2 will use reclaimed water from the nearby Victor Valley Wastewater Reclamation Authority treatment plant via a new 1.5-mile pipeline for cooling tower makeup and other non-potable water use. Except for sanitary wastewater, which will be disposed of to an existing nearby sewer interceptor, the water will be recycled through a zero liquid discharge system. The "will serve" letters accompanying the AFC confirm the availability of the necessary quantities of water for the project. These sources provide a reliable supply of water for the project. (Ex. 200, p. 5.4-5; Ex. 37)

The site is located in Seismic Zone 4. Victorville 2 will be designed and constructed to comply with current applicable LORS for seismic design. These standards improve seismic stability compared with older power plants, and ensure that the project will perform at least as well as existing plants in the

electrical system. (Ex. 200, p. 5.4-5) The Conditions of Certification in the **FACILITY DESIGN** section of this Decision ensure that the project will conform with seismic design LORS.

The project site varies in elevation from 2,780 to 2,820 feet above mean sea level. The western portion of the site is within a 500-year flood plain and the eastern portion of the site is undetermined with respect to flood zoning. At the eastern perimeter of the project site and even further to the east, the surface slopes down to the Mojave River. A ridgeline located in the middle of the project site also causes surface runoff to flow to the west and east of the site. The Mojave River is the principal flood hazard for developed areas within the Victorville development planning area. Potential flood hazards at the project site are minimal because of flood control improvements on the river, including levees and the Forksite Dam, which is located approximately 18 miles upstream from the project. No special concerns with power plant functional reliability due to flooding have been identified. For further discussion, see **SOIL AND WATER RESOURCES**, and **GEOLOGY AND PALEONTOLOGY**. (Ex. 200, pp. 5.4-5 – 5.4-6)

The Applicant predicts the project will have an annual availability factor of 90 to 95 percent. (Ex. 2, p. 2-6) Industry statistics for power plant availability, which are compiled by the North American Electric Reliability Council (NERC), show an equivalent availability factor of 89.00 percent for combined cycle units of all sizes. The project's predicted availability factor is reasonable and exceeds the NERC average. The procedures for design, procurement, and construction are in keeping with industry norms and will likely result in an adequately reliable plant. (Ex. 200, p. 5.4-6)

FINDINGS AND CONCLUSIONS

Based on the evidence, we make the following findings:

1. Implementation of Quality Assurance/Quality Control programs during design, procurement, construction, and operation of the plant, as well as adequate maintenance and repair of the equipment and systems, will ensure the project is adequately reliable.
2. Adequate fuel and water capacity are available for project operations.
3. The project will meet or exceed industry norms for reliability, including reliability during seismic events, and will not degrade the overall electrical system.

We therefore conclude that the project will be constructed and operated in accordance with typical power industry norms for reliable electricity generation. No Conditions of Certification are required for this topic. To ensure implementation of the QA/QC programs and conformance with seismic design criteria as described above, appropriate Conditions of Certification are included in the **FACILITY DESIGN** portion of this Decision.

D. TRANSMISSION SYSTEM ENGINEERING

The Commission's jurisdiction includes "...any electric power line carrying electric power from a thermal power plant...to a point of junction with an interconnected transmission system." (Pub. Resources Code, § 25107.) The Commission assesses the engineering and planning design of new transmission facilities associated with a proposed project to ensure compliance with applicable law. The Commission also conducts an environmental review of the "whole of the action" related to the power plant proposal. This may include examining the environmental effects of facilities made necessary by the construction and operation of the proposed power plant but not licensed by the Commission.

The California Independent System Operator (CAISO) is responsible for ensuring electric system reliability for participating entities, and determines both the standards necessary to achieve system reliability and whether a proposed project conforms to those standards. The Commission works in conjunction with the CAISO in assessing a project's potential impacts of connecting to the electricity grid. The CAISO has reviewed a utility System Impact Study (SIS), and provided its analysis, conclusions and recommendations, in a preliminary approval letter dated October 26, 2006 to Southern California Edison (SCE), the local system utility, Exhibit 216.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Description

The Applicant proposes to interconnect the 563 MW Victorville 2 project to SCE's 230-kV Victor Substation near Victorville, California. Each generating unit (two combustion turbines and one steam turbine) would be connected to the low side of its dedicated 18/230 kV generator step-up transformer through 8,000-ampere gas-insulated (SF6) breakers. The high side of each transformer would be

connected to the project's switchyard via 1,200-ampere disconnect switches. The step-up transformers for the combustion turbine generating units would be rated at 18/230 kV and 118/157/196 megavolt ampere (MVA), while the transformer for the steam turbine generating unit would be rated 18/230-kV and 180/240/300 MVA. The 230-kV side of each step-up transformer would be connected by 1590 ACSR overhead conductors to a breaker and one-half 230-kV switchyard at the plant site.

The 230-kV interconnection from the project switchyard to SCE's Victor substation would consist of two segments:

- Approximately 4.3 miles of 1590 ACSR, 230-kV transmission line on new transmission towers in a new right of way (ROW) between the project site and the south end of the High Desert Power Project (HDPP); and
- A second circuit of 1590 ACSR 230-kV transmission line, approximately 5.7 miles long, on the existing double-circuit HDPP transmission towers. This HDPP line was built as a double-circuit facility and has available space that would require new transmission towers at only three locations along the ROW where the existing line makes under-crossings of another utility's higher-voltage circuits.

The connection of the Victorville 2 project would also require the installation of a new, approximately 11-mile, 230-kV transmission line between the Victor and Lugo substations. In order to accommodate this new line, an existing 115 kV line will be relocated approximately 200 feet to the east in the same ROW; 3.5 miles of wooden poles will be replaced with new steel poles, and 3.1 miles of new steel poles will be installed. The Victor to Lugo transmission line is beyond the first point of interconnection for Victorville 2 and will be permitted by the California Public Utilities Commission, not as part of the Energy Commission's Certification. Nonetheless, the construction of the new transmission line and relocation of the existing line are indirect project impacts, and a general level of environmental review is required in the Energy Commission's CEQA analysis. The environmental impacts, if any, of those lines are addressed in the individual topic sections of this Decision.

2. Study Results

The system impact study (Ex. 29) was performed by SCE to identify the transmission system impacts of Victorville 2 on SCE's 115/230/500-kV system. The study included power flow, sensitivity, and short circuit studies, and transient and post-transient analyses. The study modeled the proposed project for a net output of 563 MW. The base cases included all California ISO-approved major SCE transmission projects, the transmission system for the Los Angeles Department of Water and Power, and major path flow limits of Southern California Import Transmission, East-Of-River, and West-of-River. Because preliminary studies identified severe overloads and other potential operational issues, this study assumed that a Victor-Lugo 230 kV transmission line was in service. The detailed assumptions are described in the study.

The power flow studies were conducted with and without Victorville 2 connected to SCE's grid at the Victor Substation, using 2009 heavy summer and 2010 light spring base cases. The power flow study assessed the project's impact on thermal loading of the transmission lines and equipment. Transient and post-transient studies were conducted for Victorville using the 2009 heavy summer base case to determine whether the project would create instability in the system following certain selected outages. Short circuit studies were conducted to determine if Victorville 2 would overstress existing substation facilities.

a. Power Flow Study Results

The system impact study identified pre-project overload criteria violations under the 2009 heavy summer and 2010 light spring conditions. Pre-project overloads are caused by either existing system conditions or by projects with higher positions in the California ISO's generator interconnection queue. The mitigation identified for the pre-project overloads was not included in the pre-project study cases, but was included in the Victorville 2 cases. The post-project cases

indicate that SCE facilities are not adequate to accommodate the project's interconnection to the 230-kV Victor Substation in 2009 and 2010. However, once the pre-project overloads are mitigated, the studies did not identify any post-project overloads.

Following are the study results and mitigation measures based on the power flow study:

Overload: Victorville 2 will aggravate pre-project overloads on the Lugo 500/230-kV transformers nos. 1 and 2 under the 2009 heavy summer and 2010 light spring system conditions for normal, N-1, and N-2 contingencies.

- **Mitigation:** Modifications to the existing High Desert Power Project SPS would mitigate both the pre-project overloads and system instability by tripping generation under contingency conditions; SCE system operating procedures would allow for the curtailment of generation in the Victor area when the SPS system is inoperative.

Overload: The project will aggravate pre-project overloads on the El Dorado 230/115-kV transformer under the 2009 heavy summer and 2010 light spring system conditions for normal, N-1, and N-2 contingencies.

- **Mitigation:** SPS would mitigate the pre-project overloads by tripping generation under contingency conditions and SCE system operating procedure would allow for curtailment of generation when the SPS is inoperative.

Overload: The project will aggravate pre-project overloads on the Inyo 115-kV phase shifter under the 2010 light spring system condition for normal, N-1, and N-2 contingencies.

- **Mitigation:** The Bishop Remedial Action Scheme would mitigate the pre-project overloads by tripping local generation under contingency conditions and SCE system operating procedure would allow for curtailment of generation in the Bishop area to minimize flows to the Inyo phase-shifter transformer.

Overload: The project will aggravate pre-project overloads on El Dorado Mountain Pass 115kV line under the 2009 Heavy Summer and 2010 Light Spring system conditions for normal, N-1 and N-2 contingencies.

- **Mitigation:** SPS would mitigate the pre-project and post-project overloads by tripping generation under outage conditions and SCE system operating procedure would allow for curtailment of generation when the SPS is inoperative.

The system impact study identified no post-project overload criteria violations under the 2009 heavy summer and 2010 light spring conditions. All the system upgrades of the prior queue projects have been considered and included in the post-project study assumptions. A detailed SPS study will be required in the facility study to determine if the existing High Desert SPS needs to be expanded to include Victorville 2 under the outages of Victor-Lugo 230-kV nos. 1 through 3. In this case, the Facility Study will provide the cost estimates and work scope for interconnection facilities and the transmission network upgrades.

b. Power Flow Sensitivity Study Results

The sensitivity study indicated that Victorville 2 would trigger base case and N-1 overloads on the Lugo 500/23- kV AA transformer bank and Victor-Lugo 230-kV lines No. 1 and 2 without utilizing the existing Remedial Action Scheme (RAS) of the SCE system.

The SIS identified overloads on Victor-Lugo 230-kV lines No. 1 and 2 under base case and N-1 contingencies with addition of the project, with and without any prior queue projects. A third Victor-Lugo 230-kV line and a third Lugo 500/230-kV transformer bank have to be in service before the project can interconnect to the California ISO grid.

A detailed SPS study is required to determine whether or not the existing High Desert SPS needs to be expanded to include Victorville 2, under the outages of Victor-Lugo 230-kV Nos. 1 through 3.

c. Transient and Post-Transient Power Flow Study Results

NERC/WECC planning standards require that the system maintain post-transient voltage stability when either critical path transfers or area loads increase by 5 percent for category "B" contingencies, and 2.5 percent for category "C" contingencies. Post-transient studies conducted for similar or larger generators in the area concluded that voltage remains stable under both N-1 and N-2 contingencies. The transient and post-transient studies also indicate that the simultaneous outage of Kramer-Lugo 230-kV lines Nos. 1 and 2 caused voltage violation throughout the north-of-Lugo area. However, these violations would disappear if a third Kramer-Lugo 230-kV line, needed for the reliable interconnection of prior queue projects, were in service. If the prior projects withdraw from the queue, the existing Kramer SPS will have to be revised in order to maintain system stability and post-transient voltage levels.

d. Short Circuit Study Results

Short circuit studies were performed to determine the degree to which the addition of Victorville 2 increases fault duties at SCE's substations, adjacent utility substations, and the other 115-kV, 230-kV, and 500-kV busses within the study area. The SIS indicates that the project did not trigger any circuit breaker upgrades, but did identify breaker replacement or upgrades due to generation projects ahead in the queue. The study identified 68 SCE circuit breakers which would require replacement, and 13 circuit breakers which needed to be upgraded due to interconnection of other projects.

With implementation of the above mitigation measures, the project interconnection would comply with NERC/WECC planning standards and California ISO reliability criteria. (Ex. 200, pp. 5.5-6 – 5.5-9.)

FINDINGS AND CONCLUSIONS

Based on the evidence, we make the following findings and conclusions:

1. The record includes a System Impact Study (SIS) which analyzes potential reliability and congestion impacts that would occur when Victorville 2 interconnects to the grid.
2. The SIS identified pre-project overloads in the transmission system which the addition of Victorville 2 will exacerbate.
3. The record contains a general analysis of the new Victor to Lugo 230-kV transmission line sufficient to address CEQA requirements for indirect project impacts.
4. Other transmission system impacts can be mitigated by installation of Remedial Action Schemes (RAS), operating procedures, disconnect switches, and replacement of breakers.
5. Victorville 2 will have no adverse impacts on the stable operation of the transmission system.
6. A Short Circuit Study demonstrated that Victorville 2 would not require circuit breaker upgrades or replacements beyond those required to accommodate projects ahead of it in the generation queue.
7. The project interconnection will comply with NERC/WECC planning standards and California ISO reliability criteria and applicable LORS.
8. The Conditions of Certification below are adequate to ensure Victorville 2 does not adversely impact the transmission grid.
9. The CAISO has approved Victorville 2 to interconnect to the CAISO Controlled Grid after making the required system upgrades.

We therefore conclude that with the implementation of the various mitigation measures specified in this Decision, the proposed transmission interconnection for the project will not contribute to significant direct, indirect, or cumulative impacts. The Conditions of Certification below ensure that the transmission-related aspects of the Victorville 2 project will be designed, constructed, and

operated in conformance with the applicable laws, ordinances, regulations, and standards identified in the record.

CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall furnish to the Compliance Project Manager (CPM) and to the Chief Building Official (CBO) a schedule of transmission facility design submittals, a Master Drawing List, a Master Specifications List, and a Major Equipment and Structure List. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment. To facilitate audits by Energy Commission staff, the project owner shall provide designated packages to the CPM when requested.

Verification: At least 60 days prior to the start of construction (or a lesser number of days mutually agreed to by the project owner and the CBO), the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see **Table 1: Major Equipment List** below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

**Transmission System Engineering Table 1
Major Equipment List**

Breakers
Step-Up Transformer
Switchyard
Busses
Surge Arrestors
Disconnects
Take Off Facilities
Electrical Control Building
Switchyard Control Building
Transmission Pole/Tower
Grounding System

TSE-2 Prior to the start of construction, the project owner shall assign an electrical engineer and at least one of each of the following to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils

engineering; C) a design engineer who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; or D) a mechanical engineer. (Business and Professions Code Sections 6704 et seq. require state registration to practice as a civil engineer or structural engineer in California.)

The tasks performed by the civil, mechanical, electrical, or design engineers may be divided between two or more engineers, as long as each engineer is responsible for a particular segment of the project (e.g., proposed earthwork, civil structures, power plant structures, equipment support). No segment of the project shall have more than one responsible engineer. The transmission line may be the responsibility of a separate California-registered electrical engineer. The civil, geotechnical or civil, and design engineer assigned in conformance with Facility Design Condition **GEN-5**, may be responsible for design and review of the TSE facilities.

The project owner shall submit to the CBO for review and approval, the names, qualifications, and registration numbers of all engineers assigned to the project. If any one of the designated engineers is subsequently reassigned or replaced, the project owner shall submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer. This engineer shall be authorized to halt earthwork and to require changes if site conditions are unsafe or do not conform with predicted conditions used as a basis for design of earthwork or foundations.

The electrical engineer shall:

1. Be responsible for the electrical design of the power plant switchyard, outlet and termination facilities; and
2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

Verification: At least 30 days prior to the start of rough grading (or a lesser number of days mutually agreed to by the project owner and the CBO), the project owner shall submit to the CBO for review and approval, the names, qualifications, and registration numbers of all the responsible engineers assigned to the project. The project owner shall notify the CPM of the CBO's approvals of the engineers within five days of the approval.

If the designated responsible engineer is subsequently reassigned or replaced, the project owner has five days in which to submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and

approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

TSE-3 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action (California Building Code, 1998, Chapter 1, Section 108.4, Approval Required; Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector; Appendix Chapter 33, Section 3317.7, Notification of Noncompliance). The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval and shall reference this condition of certification.

Verification: The project owner shall submit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy to the CPM within 15 days of receipt. If disapproved, the project owner shall advise the CPM, within five days, the reason for disapproval, and the revised corrective action required obtaining the CBO's approval.

TSE-4 For the power plant switchyard, outlet line, and termination, the project owner shall not begin any increment of construction until plans for that increment have been approved by the CBO. These plans, together with design changes and design change notices, shall remain on the site for one year after completion of construction. The project owner shall request that the CBO inspect the installation to ensure compliance with the requirements of applicable LORS. The following activities shall be reported in the Monthly Compliance Report:

1. Receipt or delay of major electrical equipment;
2. Testing or energization of major electrical equipment; and
3. The number of electrical drawings approved, submitted for approval, and still to be submitted.

Verification: At least 30 days prior to the start of each increment of construction (or a lesser number of days mutually agreed to by the project owner and the CBO), the project owner shall submit to the CBO for review and approval the final design plans, specifications, and calculations for equipment and systems of the power plant switchyard, outlet line, and termination, including a copy of the signed and stamped statement from the responsible electrical engineer attesting to compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

TSE-5 The project owner shall ensure that the design, construction, and operation of the proposed transmission facilities will conform to all applicable LORS,

including the requirements listed below. The project owner shall submit the required number of copies of the design drawings and calculations as determined by the CBO.

4. The Victorville 2 will be interconnected to the SCE grid via a 230-kV, 1590-ACSR, approximately 10 mile single circuit tie line. The proposed Victorville 2 switchyard would use a breaker and a half configuration with 3-bays and 4 positions.
5. The power plant outlet line shall meet or exceed the electrical, mechanical, civil, and structural requirements of CPUC General Order 95 and General Order 98 or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations (Title 8), Articles 35, 36, and 37 of the “High Voltage Electric Safety Orders”, California ISO standards, National Electric Code (NEC), and related industry standards.
6. Breakers and busses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.
7. Outlet line crossings and line parallels with transmission and distribution facilities shall be coordinated with the transmission line owner and comply with the owner’s standards.
8. The project conductors shall be sized to accommodate the full output from the project.
9. Termination facilities shall comply with applicable SCE interconnection standards.
10. The project owner shall provide to the CPM:
 - a. The final Detailed Facility Study (DFS) including a description of facility upgrades, operational mitigation measures, and/or Special Protection System (SPS) sequencing and timing if applicable,
 - b. Executed project owner and California ISO Facility Interconnection Agreement.

Verification: At least 60 days prior to the start of construction of transmission facilities (or a lesser number of days mutually agree to by the project owner and CBO), the project owner shall submit to the CBO for approval:

Design drawings, specifications, and calculations conforming with CPUC General Order 95 and General Order 98 or NESC; Title 8, California Code of Regulations, Articles 35, 36, and 37 of the “High Voltage Electric Safety Orders”; NEC; applicable interconnection standards, and related industry standards for the

poles/towers, foundations, anchor bolts, conductors, grounding systems, and major switchyard equipment.

For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on “worst-case conditions,” which would include for instance, a dead-end or angle pole and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC; Title 8, California Code of Regulations, Articles 35, 36 and 37 of the “High Voltage Electric Safety Orders”; NEC; applicable interconnection standards, and related industry standards.

Electrical one-line diagrams signed and sealed by the registered professional electrical engineer in responsible charge, a route map, and an engineering description of equipment and the configurations covered by requirements TSE-5 1) through 5) above.

The final Detailed Facility Study, including a description of facility upgrades, operational mitigation measures, and/or SPS sequencing and timing if applicable, shall be provided concurrently to the CPM.

TSE-6 The project owner shall provide the following Notice to the California Independent System Operator (California ISO) prior to synchronizing the facility with the California transmission system:

1. At least one week prior to synchronizing the facility with the grid for testing, provide the California ISO a letter stating the proposed date of synchronization; and
2. At least one business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the California ISO Outage Coordination Department.

Verification: The project owner shall provide copies of the California ISO letter to the CPM when it is sent to the California ISO one week prior to initial synchronization with the grid. A report of the conversation with the California ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.

TSE-7 The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95 or NESC; Title 8, CCR, Articles 35, 36 and 37 of the “High Voltage Electric Safety Orders”; applicable interconnection standards; NEC; and related industry standards. In case of non-conformance, the project owner shall inform the CPM and

CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

Verification: Within 60 days after first synchronization of the project, the project owner shall transmit to the CPM and CBO:

1. "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95 or NESC; Title 8, California Code of Regulations, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders"; applicable interconnection standards; NEC; and related industry standards, and these conditions shall be provided concurrently.
2. An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the electrical, mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan."
3. A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in charge.

DEFINITION OF TERMS

AAC	All aluminum conductor
ACSR	Aluminum conductor steel-reinforced
ACSS	Aluminum conductor steel-supported
Ampacity	Current-carrying capacity, expressed in amperes, of a conductor at specified ambient conditions, at which damage to the conductor is nonexistent or deemed acceptable based on economic, safety, and reliability considerations.
Ampere	The unit of current flowing in a conductor.
Bundled	Two wires, 18 inches apart.
Bus	Conductors that serve as a common connection for two or more circuits.
Conductor	The part of the transmission line (the wire) that carries the current.
Congestion management	A scheduling protocol, which provides that dispatched generation and transmission loading (imports) will not violate criteria.
Emergency overload	See “Single Contingency.” This is also called an L-1.
Kcmil or KCM	Thousand circular mil. A unit of the conductor's cross sectional area. When divided by 1,273, the area in square inches is obtained.
Kilovolt (kV)	A unit of potential difference, or voltage, between two conductors of a circuit, or between a conductor and the ground.
Loop	An electrical cul de sac. A transmission configuration that interrupts an existing circuit, diverts it to another connection, and returns it back to the interrupted circuit, thus forming a loop or cul de sac.
Megavar	One megavolt ampere reactive.
Megavars	Mega-volt-Ampere-Reactive. One million Volt-Ampere-Reactive. Reactive power is generally associated with the reactive nature of motor loads that must be fed by generation units in the system.
Megavolt ampere (MVA)	A unit of apparent power. It equals the product of the line voltage in kilovolts, current in amperes, and the square root of 3, divided by 1,000.
Megawatt (MW)	A unit of power equivalent to 1,341 horsepower.
Normal operation/normal overload	The condition arrived at when all customers receive the power they are entitled to, without interruption and at steady voltage, and with no element of the transmission system loaded beyond its continuous rating.
N-1 condition	See “single contingency.”
Outlet	Transmission facilities (circuit, transformer, circuit breaker, etc.) linking generation facilities to the main grid.

Power flow analysis	A forward-looking computer simulation of essentially all generation and transmission system facilities that identifies overloaded circuits, transformers, and other equipment and system voltage levels.
Reactive power	Generally associated with the reactive nature of motor loads that must be fed by generation units in the system. An adequate supply of reactive power is required to maintain voltage levels in the system.
Remedial action scheme (RAS)	An automatic control provision, which, for instance, will trip a selected generating unit upon a circuit overload.
SF6 (sulfur hexafluoride)	An insulating medium.
Single contingency	Also known as “emergency” or “N-1 condition,” the occurrence when one major transmission element (circuit, transformer, circuit breaker, etc.) or one generator is out of service.
Solid dielectric cable	Copper or aluminum conductors that are insulated by solid polyethylene type insulation and covered by a metallic shield and outer polyethylene jacket.
Switchyard	An integral part of a power plant and used as an outlet for one or more electric generators.
Thermal rating	See “ampacity.”
TSE	Transmission system engineering.
Tap	A transmission configuration creating an interconnection through a sort single circuit to a small or medium sized load or a generator. The new single circuit line is inserted into an existing circuit by utilizing breakers at existing terminals of the circuit, rather than installing breakers at the interconnection in a new switchyard.
Undercrossing	A transmission configuration where a transmission line crosses below the conductors of another transmission line, generally at 90 degrees.
Underbuild	A transmission or distribution configuration where a transmission or distribution circuit is attached to a transmission tower or pole below (under) the principle transmission line conductors.

E. TRANSMISSION LINE SAFETY AND NUISANCE

The project's transmission lines must be constructed and operated in a manner that protects the environment and public health and safety, and complies with applicable law. This section summarizes the potential impacts of the transmission tie-line on aviation safety, radio-frequency interference, audible noise, fire hazards, nuisance shocks, hazardous shocks, and electromagnetic field exposure.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Victorville 2 will be interconnected to the electric transmission grid by a new transmission line extending to Southern California Edison's (SCE) Victor Substation approximately 10 miles southwest of the project site. The project site and new transmission line are located in undisturbed desert lands with no nearby residences.

The specific transmission components are:

- A new overhead 230-kV line extending approximately 4.3 miles in a new right-of-way between the project site and a point 1.5 miles south of the existing High Desert Power Project (HDPP) where the line will connect to share support towers with a transmission line that currently transmits the power from HDPP;
- A new 230-kV circuit erected on the support structures for the existing 5.7-mile long HDPP-Victor line;
- A 230-kV switchyard on the Victorville 2 site; and
- A system reliability upgrade involving (a) installation of new 230-kV towers and new conductors in the right-of-way of an existing 230-kV line that runs from the Victor Substation to the Lugo Substation approximately 11 miles further south, (b) relocation of an existing 115-kV line within the right-of-way of the existing SCE Victor Substation-to-Lugo-Substation line to a new route approximately 200 feet from its present route, and (c) replacement of wooden poles on a 3.1-mile segment of the 115-kV line with steel poles.

The proposed new line would be owned, operated and maintained by SCE. Its conductors would be standard low-corona aluminum steel reinforced cables supported on new single tubular or lattice support structures. Their design and construction would be in keeping with SCE guidelines. (Ex. 200, p. 4.11-4)

1. Aviation Safety

Any potential hazard to area aircraft would arise from the potential for collision in the navigable airspace. While the Victorville 2 site is approximately one mile north of the Southern California Logistic Airport (SCLA), a civilian airport, the height of the proposed support towers would, at a maximum of 140 feet, be much less than the 200 feet regarded by the Federal Aviation Administration as triggering concerns about aviation safety. The proposed line structures therefore do not pose an obstruction-related aviation hazard to area aircraft. (Ex. 200, p. 4.11- 5)

2. Interference: Radio-Frequency Communication and Audible Noise

Transmission line-related radio-frequency interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor, known as “corona discharge.” The level of any such interference usually depends on the magnitude of the electric fields involved and the distance from the line. The potential for such impacts is, therefore, minimized by reducing the line electric fields and locating the line away from inhabited areas.

The proposed line will use low-corona designs to reduce surface-field strengths. Similar existing lines do not currently cause corona-related complaints along their routes, so there should not be any corona-related radio-frequency interference or related complaints in the general project area. However, Condition of Certification **TLSN-2** will ensure mitigation as required by the FCC in the unlikely event of complaints.

Audible noise can occur from corona discharges, though it is generally limited to transmission lines of 345-kV and larger, not the 230-kV lines proposed here. This noise does not generally extend beyond the transmission line right-of-way and thus would be inaudible to any sensitive receptor in the vicinity. (Ex. 200, pp. 4.11-5 — 4.11-6)

3. Fire Hazards

Fire hazards include fires that could be caused by sparks from overhead conductors or direct contact between the conductors and nearby trees and other combustible objects. Standard fire prevention and suppression measures used for similar SCE lines will be implemented for the proposed project lines. (Ex. 200, p. 4.11-6)

4. Hazardous Shocks

Hazardous shocks could result from direct or indirect contact between an individual and the energized line, whether overhead or underground. Such shocks are capable of causing serious injury or death. Compliance with California Public Utilities Commission (CPUC) General Order 95, as required by Condition of Certification **TLSN-1**, will satisfactorily mitigate any hazard. (Ex. 200, pp. 4.11-6 — 4.11-7)

5. Nuisance Shocks

Nuisance shocks are caused by current flow at levels generally incapable of causing significant physiological harm. They result mostly from direct contact with metal objects electrically charged by fields from the energized line. The potential for nuisance shocks around the proposed line will be minimized through standard

industry grounding practices. Condition of Certification **TLSN-5** will ensure their implementation. (Ex. 200, p. 4.11-7)

6. Electric and Magnetic Field (EMF) Exposure

The possibility of deleterious health effects from exposure to electric and magnetic fields (EMF) has raised public health concerns about living near high-voltage lines. The available evidence has not established that such fields pose a significant health hazard to exposed humans, or the definite lack of a hazard.

While there is considerable uncertainty about EMF health effects, the following facts have been established from the available information:

- Any exposure-related health risk to the exposed individual will likely be small,
- No biologically significant exposures have been established,
- Most health concerns are about the magnetic field, and
- The measures employed for such field reduction can affect line safety, reliability, efficiency, and maintainability, depending on the type and extent of such measures.

Field intensities are estimated or measured for a height of one meter above the ground. Their magnitude depends on line voltage (in the case of electric fields), the geometry of the support structures, degree of cancellation from nearby conductors, distance between conductors, and in the case of magnetic fields, amount of current in the line.

Specific field strength-reducing measures are incorporated into power line designs to ensure the field strength minimization currently required by the CPUC in light of the concern over EMF exposure and health. These reduction measures may include the following:

- Increasing the distance between the conductors and the ground;

- Reducing the spacing between the conductors;
- Minimizing the current in the line; and
- Arranging current flow to maximize the cancellation effects from interacting of conductor fields.

Since optimum field-reducing measures will be incorporated into the proposed line design, further mitigation is unnecessary. Under Condition of Certification **TLSN-3**, however, validation of assumed reduction efficiency by taking before and after field strength measurements is required. (Ex. 200, pp. 4.11-7 — 4.11-10)

FINDINGS AND CONCLUSIONS

Based on the evidence, we make the following findings and conclusions:

1. The proposed lines and related facilities do not pose an aviation hazard according to current FAA criteria.
2. The long-term, mostly residential magnetic exposure from the proposed line would be insignificant as a health concern given the absence of residences along the proposed route. On-site worker or public exposure would be short term and at levels expected for lines of similar design and current-carrying capacity. Such exposure has not been established as posing a significant human health hazard.
3. The potential for nuisance shocks will be minimized through grounding the project's lines and other field-reducing measures required by standard industry practices.
4. The Conditions of Certification reasonably ensure that the project's transmission tie-line will not have significant environmental impacts on public health and safety, nor cause impacts in terms of, radio/TV communication interference, audible noise, fire hazards, nuisance or hazardous shocks, or electromagnetic field exposure.

We therefore conclude that with implementation of the Conditions of Certification the project will conform with all applicable laws, ordinances, regulations, and standards relating to Transmission Line Safety and Nuisance.

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall construct the proposed transmission lines according to the requirements of California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2. High Voltage Electrical Safety Orders, Sections 2700 through 2974 of the California Code of Regulations, and Southern California Edison's EMF-reduction guidelines.

Verification: At least thirty days before starting construction of the transmission line or related structures and facilities, the project owner shall submit to the Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the lines will be constructed according to the requirements stated in the Condition.

TLSN-2 The project owner shall ensure that every reasonable effort will be made to identify and correct, on a case-specific basis, any complaints of interference with radio or television signals from operation of the project-related lines and associated switchyards. The project owner shall maintain written records for a period of five years, of all complaints of radio or television interference attributable to line operation together with the corrective action taken in response to each complaint. All complaints shall be recorded to include notations on the corrective action taken. Complaints not leading to a specific action or for which there was no resolution should be noted and explained. The record shall be signed by the project owner and also the complainant, if possible, to indicate concurrence with the corrective action or agreement with the justification for a lack of action.

Verification: All reports of line-related complaints shall be summarized for the project-related lines and included during the first five years of plant operation in the Annual Compliance Report.

TLSN-3 The project owner shall use a qualified individual to measure the strengths of the electric and magnetic fields from the line at the points of maximum intensity identified by the applicant in Figures 6.14-1 through 6.14-6. The measurements shall be made before and after energization according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures. These measurements shall be completed not later than six months after the start of operations.

Verification: The project owner shall file copies of the pre-and post-energization measurements with the CPM within 60 days after completion of the measurements.

TLSN-4 The project owner shall ensure that the rights-of-way of the proposed transmission line are kept free of combustible material, as required

under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.

Verification: During the first five years of plant operation, the project owner shall provide a summary of inspection results and any fire prevention activities carried out along the right-of-way and provide such summaries in the Annual Compliance Report.

TLSN-5 The project owner shall ensure that all permanent metallic objects within the right-of-way of the project-related lines are grounded according to industry standards regardless of ownership. In the event of refusal by any property owner to permit such grounding, the project owner shall so notify the CPM. Such notification shall include, when possible, the owner's written objection. Upon receipt of such notice, the CPM may waive the requirement for grounding the object involved.

Verification: At least 30 days before the lines are energized, the project owner shall transmit to the CPM a letter confirming compliance with this condition.

V. PUBLIC HEALTH AND SAFETY ASSESSMENT

Operation of the Victorville 2 Project will create combustion products and utilize certain hazardous materials that could potentially cause adverse health effects to the general public and to the workers at the facility. The following sections describe the regulatory programs, standards, protocols, and analyses that address these issues.

A. AIR QUALITY

This section examines the potential adverse impacts of criteria air pollutant emissions resulting from project construction and operation. In consultation with the local air pollution control district, the Commission determines whether the project will likely conform with applicable LORS, whether it will likely result in significant air quality impacts, including violations of ambient air quality standards, and whether the project's proposed mitigation measures will likely reduce potential impacts to insignificant levels.

Applicant and Staff reached agreement on all relevant issues, including the Conditions of Certification following this narrative. Intervenor CURE contends, however, that the use of road paving credits for reduction of PM₁₀ emissions does not comply with law.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Federal Clean Air Act and the California Clean Air Act both require the establishment of standards for ambient concentrations of air pollutants, called ambient air quality standards (AAQS). The state AAQS, established by the California Air Resources Board (CARB), are typically lower (more protective) than the federal AAQS which are established by the U.S. EPA. The state and federal air quality standards are listed in **AIR QUALITY Table 1** below.

In general, an area is designated as attainment if the concentration of a particular air contaminant does not exceed the standard. Likewise, an area is designated as non-attainment for an air contaminant if that contaminant standard is violated. Where not enough ambient data are available to support designation as either attainment or non-attainment, the area can be designated as unclassified. An area could be attainment for one air contaminant while non-attainment for another, or attainment for the federal standard and non-attainment for the state standard for the same air contaminant.

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**Air Quality Table 1
Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary	Secondary
Ozone(O ₃)	1-hour	0.09 ppm (180 µg/m ³)	None	Same as primary
	8-hour	0.07 ppm (137 µg/m ³)	0.08 ppm (157 µg/m ³)	
Particulate Matter (PM ₁₀)	Ann.Geo. Mean	20 µg/m ³	---	Same as primary
	24-hour	50 µg/m ³	150 µg/m ³	
	Ann.Arit. Mean	---	50 µg/m ³	
Fine Particulate Matter (PM _{2.5})	24-hour	No separate standard	35 µg/m ³	Same as primary
	Ann.Arit. Mean	12 µg/m ³	15 µg/m ³	
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m ³)	35 ppm (40 mg/m ³)	---
	8-hour	9 ppm (10 mg/m ³)	9 ppm (10 mg/m ³)	
Nitrogen Dioxide (NO ₂)	1-hour	0.25 ppm (470 µg/m ³)	---	Same as primary
	Ann.Arit. Mean	---	0.053 ppm (100 µg/m ³)	
Lead (Pb)	30-day	1.5 µg/m ³	---	Same as primary
	Cal. Quarter	---	1.5 µg/m ³	
Sulfur Dioxide (SO ₂)	Ann.Arit. Mean	---	0.03 ppm (80 µg/m ³)	---
	24-hour	0.04 ppm (105 µg/m ³)	0.147 ppm (365 µg/m ³)	---
	3-hour	---	---	0.5 ppm (1300 µg/m ³)
	1-hour	0.25 ppm (655 µg/m ³)	---	---
Sulfates	24-hour	25 µg/m ³	No federal standard	
H ₂ S	1-hour	0.03 ppm (42 µg/m ³)	No federal standard	

Source: California Air Resources Board

Victorville 2 is located in the Mojave Desert Air Basin and is under the jurisdiction of the Mojave Desert Air Quality Management District. This area is designated as non-attainment for the state annual PM_{2.5} standard, non-attainment for both the state and the federal (1-hour and 8-hour) ozone and 24-hour PM₁₀ standards, attainment for the state's CO, NO₂, SO₂, SO₄ and Lead (Pb) standards, and unclassified for the federal PM_{2.5}, CO, NO₂ and SO₂ standards. **AIR QUALITY Table 2** summarizes federal and state attainment status for criteria pollutants for the Mojave Desert Region.

Air Quality Table 2
Mojave Desert Attainment Status

Pollutant	Averaging Time	California Status	Federal Status
Ozone (O ₃)	8 Hour	Non-attainment	Non-attainment
	1 Hour	Non-attainment	N/A
Carbon Monoxide (CO)	8 Hour	Attainment	Attainment
Nitrogen Dioxide (NO _x)	Annual	N/A	Attainment
	1 Hour	Attainment	N/A
Sulfur Dioxide (SO ₂)	Annual	N/A	Attainment
	24 Hour	Attainment	Attainment
	1 Hour	Attainment	N/A
PM ₁₀	Annual	Non-attainment	N/A
	24 Hour	Non-attainment	Non-attainment
PM _{2.5}	Annual	Non-attainment	Unclassified/Attainment
	24 Hour	N/A	Attainment

Notes: N/A= no standard applies or not applicable

The proposed project consists of 250 acres of parabolic solar-thermal collectors with associated heat transfer equipment integrated into a combined cycle consisting of two natural gas-fired combustion turbine-generators (CTGs) rated at 154 MW each, two heat recovery steam generators (HRSGs), one steam turbine-generator (STG) rated at 268 MW, an auxiliary boiler, and a ten-cell cooling tower. The solar system includes a heat transfer fluid heater.

The Applicant (city) proposes to equip each combustion turbine with selective catalytic reduction (SCR) systems to limit the NO_x emissions to 2.0 ppm@15% O₂. The city also proposes to install a CO oxidation catalyst system on each turbine to maintain CO emissions to no more than three (3) ppm (Ex. 8, Table 6.3-15).

1. Construction Impacts

The construction of the proposed project will last approximately 27 months. Both fugitive dust emissions and emissions from construction equipment exhausts are expected during this phase. A small amount of hydrocarbon emissions may occur as a result of the temporary storage of petroleum fuel at the site. Air Quality Table 3 shows the anticipated maximum project construction emissions.

**AIR QUALITY Table 3
Maximum Project Construction Emissions**

Pollutants	Avg. Period	Impacts (µg/m ³)	Background (µg/m ³)	Total Impact (µg/m ³)	State Standard (µg/m ³)	Percent of Standard
NO ₂	1-hr.	817	169	986	322	300%
CO	8-hr.	1,523	2,415	3,938	10,000	40%
PM ₁₀	24-hr.	106	98	214	50	430%

(Ex. 200 p. 4.1-11.)

To mitigate the impacts due to construction of the facility, the city has proposed mitigation measures, incorporated into the Conditions of Certification we adopt herein, which will reduce the level of impacts to a less than significant level.

2. Initial Commissioning Impacts on Air Quality

Initial commissioning refers to a period of approximately 60 days prior to beginning commercial operation when the combustion turbines undergo initial test firing. During this commissioning phase, the project may operate at a low-load for a period of time for fine-tuning. The District typically requires that each activity of the commissioning period be planned and that all NO_x and CO emissions and the time of commissioning be minimized to lessen the impacts

from the turbines and duct burners. Based on the evidence of record, we find that there will be no new impacts from NO_x and CO emissions during the commissioning period. All criteria air contaminant emissions during the commissioning period will be counted toward the annual emission limits; thus there is an incentive for the Applicant to limit the commissioning period to the shortest time possible.

2. Operational Impacts

The city has provided a modeling analysis using the EPA-approved AERMOD model to estimate the impacts of the project's NO_x, PM₁₀, CO, and SO_x emissions resulting from project operation.

Air Quality Table 4 shows that the project does not cause any new violations of NO₂, CO or SO₂ air quality standards even with worst case ambient concentrations recorded. The project, however, would contribute to existing violations of the state 24-hour and annual PM₁₀, the federal 24-hour PM_{2.5} air quality standards, and the state 1-hour and the federal 8-hour ozone standards. Therefore, we adopt Conditions of Certification requiring mitigation in the form of emission reduction credits for particulate matter and its precursors, and ozone and its precursors, as part of this Decision.

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**Air Quality Table 4
Project Operation Emission Impacts**

Pollutants	Avg. Period	Impacts (µg/m ³)	Background (µg/m ³)	Total Impacts (µg/m ³)	Standard (µg/m ³)	Percent of Standard
NO ₂	1-hour (start-up)	243	169	412	470 ¹	88%
	1-hour (steady state) ³	240	169	409	470 ¹	87%
	Annual	0.3	41	41.3	100 ²	41%
SO ₂	1-hour	1.5	31	32.5	655 ¹	5%
	24-hour	0.3	16	16.3	105 ¹	16%
CO	1-hour	1,069.71	3,680	4,749.71	23,000 ¹	21%
	8-hour	178.23	2,178	2,356.23	10,000 ¹	23%
PM ₁₀	24-hour	5.9	181	186.9	50 ¹	370%
	Annual	0.3	34	34.3	20 ¹	172%
PM _{2.5}	24-hour	5.9	38	43.9	35 ²	125%
	Annual	0.3	13.9	14.2	12 ¹	118%

Notes: 1. State standards; 2. Federal standards; 3. Including impacts from fire pump engine.

Exhibit 200, p. 4.1-14.

a. Operational Impacts Mitigation

The city is proposing to mitigate the project's emissions by providing VOC emission reduction credits (for ozone precursors), obtained from sources in the upwind neighboring South Coast Air Quality Management District (SCAQMD), and paving of roads in the Victorville area for PM₁₀/PM_{2.5} and its precursors.

3. Ozone precursors (NO_x and VOC)

Due to the unavailability of ozone precursor ERCs in the Mojave District, the city proposes to secure ozone precursor ERCs (VOC priority reserve emission reduction credits) from the SCAQMD. This type of emission offsetting is referred to as inter-pollutant/inter-basin emission trading. Both Districts' regulations and state and federal laws allow such an approach. There are meteorological circumstances where ozone and ozone precursor (NO_x and VOC) emissions from the SCAQMD cause an overwhelming contribution to ozone violations in the District. Therefore, we find that the use of VOC ERCs from the SCAQMD to

mitigate the facility's NO_x and VOC emissions contribution to existing violations of ozone air quality standards is acceptable. We adopt of Condition of Certification **AQ-SC8** to ensure timely purchase of the SCAQMD VOC Priority Reserve emission reduction credits.

a. PM_{10/2.5} and Their Precursors

The city proposes to pave some local roadways to generate emission reduction credits to mitigate the project's PM_{10/2.5} and PM_{10/2.5} precursor (SO_x) emission impacts. Pursuant to Conditions of Certification we adopt herein, the roads to be paved shall be identified at least a year prior to start of construction of the facility to allow the actual paving to be completed at least fifteen (15) days before the start of construction of the facility. We also adopt Condition of Certification **AQ-SC10**, to prohibit non-maintenance vehicles from traveling on any unpaved portion of roadways within the facility and to limit vehicle speed to no more than ten (10) miles per hour on the unpaved portion of roadways within the facility.

4. Intervenor CURE's Arguments Regarding District Rule 1406

We briefly address the contention of Intervenor CURE that road paving ERC's may not legally be used by the Applicant because District Rule 1406 (Rule), allowing the use of such credits, has not yet been approved by the USEPA. This issue has been thoroughly briefed by Staff, the Applicant, and CURE. Although the Rule has not been approved by the EPA, the evidence shows that it is currently under review by the EPA. CURE offers no evidence or argument upon which we could base a finding that the EPA is unlikely to approve Rule 1406. In fact, CURE's arguments against the current use of Rule 1406 appear to be based entirely upon speculation that EPA may take a long time to review and approve the Rule. Such speculation—particularly in the absence of any facts tending to show that EPA will not ultimately approve the Rule--cannot form the basis for disapproving the Applicant's emissions mitigation plans, which were approved by the District in its Final Determination of Compliance issued on

January 10, 2008. Further, the EPA itself allows issuance of permits to construct and operate as long as, by the time the source of emissions is to commence operations, sufficient offsetting emissions reductions have been obtained. [42 USC 7503(a)(1)(A).] Our review of the briefs and the relevant law leads us inescapably to the conclusion that CURE's arguments lack both legal and factual support. There is nothing in the record that would support a finding that EPA is unlikely to approve the Rule, yet EPA disapproval would be the only justification for denying City's request to take advantage of the Rule. We therefore deny CURE's request that we "require the City to identify an alternate source of federally enforceable PM₁₀ offsets prior to the Commission certifying the Project."

5. Cumulative Impacts and Mitigation

"Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or . . . compound or increase other environmental impacts. . . . A cumulative impact consists of an impact that is created as a result of a combination of the project evaluated in the EIR together with other projects causing related impacts." (CEQA Guidelines §§ 15355 and 15130[a][1].) Such impacts may be relatively minor and incremental, yet still be significant because of the existing environmental background, particularly when one considers other closely related past and present projects as well as those in the reasonably foreseeable future. Much of the preceding discussion is concerned with cumulative impacts; air quality measurement, by its very nature, involves measuring pollutants accumulated from many sources.

6. Ozone

The District is currently classified as not in attainment (or "nonattainment") of the state 1-hour and the federal 8-hour ozone air quality standards. In 2004, the District adopted its 2004 Ozone Attainment Plan (OAP), which was submitted to the California Air Resources Board (CARB) for consideration and forwarded to the U.S.EPA for incorporation into the State Implementation Plan (SIP). The OAP

states that "(t)he MDAQMD is downwind of the Los Angeles basin, and to a lesser extent, is downwind of the San Joaquin Valley. Prevailing winds transport ozone and ozone precursors from both regions into and through the MDAB during the summer ozone season. These transport couplings have been officially recognized by CARB. Local MDAQMD emissions contribute to exceedances of both the NAAQS and CAAQS for ozone, but the MDAB would be in attainment of both standards without the influence of this transported air pollution from upwind regions." Therefore, it is unlikely that the Victorville 2 project, fully mitigated, and the emissions from expansion of the Southern California Logistic Airport and the Victor Valley Wastewater Reclamation Authority facility would cause violations of the ozone standards (ex. 200, p. 4.1-18).

7. Particulate Matter

The District is currently classified as nonattainment for the state and the federal 24-hour PM_{10} air quality standard. In 1997 the federal government adopted $PM_{2.5}$ standards, as did the state in 2003. The EPA has determined that the area is unclassified, or attainment for both the annual and the 24-hour federal $PM_{2.5}$ standard. However, the CARB classified the area as non-attainment of the annual state $PM_{2.5}$ air quality standard.

The District's Particulate Matter Attainment Plan (PMAP) states that the air quality of the MDAQMD is impacted by both fugitive dust from local sources and occasionally by region-wide wind-blown dust due to wind. Such wind-blown dust includes contributions from both local and distant dust sources. It also states that it is not feasible to implement control measures to reduce dust from regional wind events (Ex. 200, p. 4.1-18).

We find that it is unlikely that the quantity of Victorville 2 project emissions, fully mitigated, even added to emissions from the expansion of the Southern California Logistic Airport and the Victor Valley Wastewater Reclamation Authority facility will approach the quantities generated by fugitive and windblown

dust. Therefore, we find the cumulative impacts of the project and the expansion of the Southern California Logistic Airport and the Victor Valley Wastewater Reclamation Authority facility on the existing air quality to be insignificant.

8. Greenhouse Gases

The generation of electricity can produce air emissions known as greenhouse gases in addition to the criteria air pollutants. Greenhouse gases are known to contribute to the warming of the earth's atmosphere. These include primarily carbon dioxide, nitrous oxide (N₂O, not NO or NO₂, which are commonly known as NO_x or oxides of nitrogen), and methane (unburned natural gas). Also included are sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs) from transformers and chillers.

Climate change from rising temperatures represents a risk to California's economy, public health, and environment. (Ex. 200, p. 4.1-19.) In 1998, the Commission identified a range of strategies to prepare for an uncertain climate future, including a need to account for the environmental impacts associated with energy production, planning, and procurement. (*Id.*) In 2003, the Commission recommended that the state require reporting of greenhouse gas emissions as a condition of state licensing of new electric generating facilities (*Id.*) Such reporting would be done in accordance with reporting protocols currently in place or that will be adopted with the implementation of new laws. The Intergovernmental Panel on Climate Change (IPCC), an international scientific body, has developed standard reporting protocols and methodologies for governments and agencies to follow in calculating GHG inventories. (*Id.*)

The California Global Warming Solutions Act of 2006 (AB32) requires the ARB to adopt a statewide greenhouse gas emissions limit equivalent to the statewide GHG emissions levels in 1990 to be achieved by 2020. ARB has a mandate to adopt rules and regulations requiring the maximum technologically feasible and

cost-effective GHG emission reductions. Hybrid power generating facilities such as Victorville 2 are a response to the requirement to reduce greenhouse gas emissions through the use of renewable energy sources.

CARB adopted early action GHG reduction measures in October 2007, and will establish statewide emissions caps by sectors in 2008. ARB would adopt a plan by January 1, 2009, that would indicate how emission reductions would be achieved from significant sources of GHGs via regulations, market mechanisms, and other actions. Then, during 2009, ARB Staff would draft rule language to implement its plan and hold public workshops on each measure including market mechanisms. Strategies that the state might pursue for managing GHG emissions in California are identified in the California Climate Action Team's Report to the Governor. (*Id.*)

The Electricity Greenhouse Gas Emission Standards Act (SB 1368) was also enacted in 2006, imposing a GHG or Environmental Performance Standard upon generation and contracts. At its January 25, 2007 meeting, the CPUC adopted an Emissions Performance Standard for the state's Investor Owned Utilities of 1,100 pounds (or 0.5 metric tons) CO₂ per megawatt-hour (MWh). The Emissions Performance Standard applies to base load power from new power plants, new investments in existing power plants, and new or renewed contracts with terms of five years or more, including contracts with power plants located outside of California. A similar performance standard is undergoing rulemaking by the CEC for the Publicly Owned Utilities.

We adopt Condition of Certification **AQ-SC11**, which requires the project owner to report the quantities of relevant greenhouse gases emitted as a result of electric power production. We find that **AQ-SC11**, with the reporting of GHG emissions, will enable the project to be consistent with the regulations and policies described above. The greenhouse gas emissions to be reported in Condition of Certification **AQ-SC11** are carbon dioxide, methane, nitrous oxide,

sulfur hexafluoride, HFCs and PFCs emissions that are directly associated with the production and transmission of electric power.

We find that the project would not have a significant cumulative impact on air quality. The project's minor addition to existing PM₁₀ violations is not sufficient to support a finding of significant cumulative impact.

FINDINGS AND CONCLUSIONS

Based on the evidence, we make the following findings and conclusions:

1. The proposed Victorville 2 project is located within the jurisdiction of the Mojave Desert Air Quality Management District.
2. The project will employ the best available technology to control emissions of criteria pollutants.
3. Project emissions will be fully offset.
4. Use of emission reduction credits in this case is appropriate, and is consistent with applicable federal and state emission control strategies.
5. The District issued a Final Determination of Compliance that finds the CGS will comply with all applicable District rules for project operation.
6. The project's construction-related impacts are temporary and short-term in nature. They are mitigated to below a level of significance by measures identified in the Conditions of Certification.
7. The record contains an adequate analysis of the project's contributions to cumulative air quality impacts.
8. Implementation of the Conditions of Certification listed below ensures that the project will not result in any significant direct, indirect, or cumulative impacts to air quality.

The Commission therefore concludes that implementation of the Conditions of Certification, below, and the mitigation measures described in the evidentiary

record, will ensure that the Victorville 2 Project conforms with all applicable laws, ordinances, regulations, and standards relating to air quality.

CONDITIONS OF CERTIFICATION

AQ-SC1 Air Quality Construction Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with **AQ-SC3**, **AQ-SC4** and **AQ-SC5** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM Delegates. The AQCMM and AQCMM Delegates shall have full access to all areas of construction on the project site and linear facilities, and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation conditions. The AQCMM and AQCMM Delegates may have other responsibilities in addition to those described in this condition. The AQCMM shall not be terminated without written consent of the Compliance Project Manager (CPM).

Verification: At least 60 days prior to the start of ground disturbance, the project owner shall submit to the CPM for approval, the name, resume, qualifications, and contact information for the on-site AQCMM and all AQCMM Delegates.

AQ-SC2 Air Quality Construction Mitigation Plan (AQCMP): The project owner shall provide an AQCMP, for approval, which details the steps that will be taken and the reporting requirements necessary to ensure compliance with **AQ-SC3**, **AQ-SC4**, **AQ-SC5** and **AQ-SC6**.

Verification: At least 60 days prior to the start of any ground disturbance, the project owner shall submit the AQCMP to the CPM for approval. The District will notify the project owner of any necessary modifications to the plan within 30 days from the date of receipt.

AQ-SC3 Construction Fugitive Dust Control: The AQCMM shall submit documentation to the CPM in each Monthly Compliance Report (MCR) that demonstrates compliance with the following mitigation measures for the purposes of preventing all fugitive dust plumes from leaving the Project. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

- A. All unpaved roads and disturbed areas in the project and linear construction sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of **AQ-SC4**. The

frequency of watering can be reduced or eliminated during periods of precipitation.

- B. No vehicle shall exceed 10 miles per hour within the construction site.
- C. The construction site entrances shall be posted with visible speed limit signs.
- D. All construction equipment vehicle tires shall be inspected and washed as necessary to be cleaned free of dirt prior to entering paved roadways.
- E. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.
- F. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.
- G. All construction vehicles shall enter the construction site through the treated entrance roadways, unless an alternative route has been submitted to and approved by the District.
- H. Construction areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent run-off to roadways.
- I. All paved roads within the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.
- J. At least the first 500 feet of any public roadway exiting from the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or runoff from the construction site is visible on the public roadways.
- K. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or shall be treated with appropriate dust suppressant compounds.
- L. All vehicles that are used to transport solid bulk material on public roadways and that have potential to cause visible emissions shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks in a manner to provide at least one foot of freeboard.

M. Wind erosion control techniques (such as windbreaks, water, chemical dust suppressants, and/or vegetation) shall be used on all construction areas that may be disturbed. Any windbreaks installed to comply with this condition shall remain in place until the soil is stabilized or permanently covered with vegetation.

Verification: The AQCMM shall provide the CPM a MCR to include:

1. A summary of all actions taken to maintain compliance with this condition;
2. Copies of any complaints filed with the District in relation to project construction; and
3. Any other documentation deemed necessary by the District and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM Delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes that have the potential to be transported (1) off the project site or (2) 200 feet beyond the centerline of the construction of linear facilities or (3) within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not resulting in effective mitigation. The AQCMP shall include a section detailing how the additional mitigation measures will be accomplished within the time limits specified. The AQCMM or Delegate shall implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed:

Step 1: The AQCMM or Delegate shall direct more intensive application of the existing mitigation methods within 15 minutes of making such a determination.

Step 2: The AQCMM or Delegate shall direct implementation of additional methods of dust suppression if step 1 specified above fails to result in adequate mitigation within 30 minutes of the original determination.

Step 3: The AQCMM or Delegate shall direct a temporary shutdown of the activity causing the emissions if step 2, specified above, fails to result in effective mitigation within one hour of the original determination. The activity shall not restart until the AQCMM or Delegate is satisfied that appropriate additional mitigation or other site conditions have changed so that visual dust plumes will not result upon restarting the shutdown source. The owner/operator may appeal to the District any directive from the AQCMM or Delegate to shut down an activity, provided that the shutdown shall

go into effect within one hour of the original determination, unless overruled by the District before that time.

Verification: The AQCMM shall provide the CPM a MCR to include:

1. A summary of all actions taken to maintain compliance with this condition;
2. Copies of any complaints filed with the District in relation to project construction; and
3. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC5 Diesel-Fueled Engine Control: The AQCMM shall submit to the CPM in the MCR, a construction mitigation report that demonstrates compliance with the following mitigation measures for the purposes of controlling diesel construction-related emissions. Any deviation from the following mitigation measures shall require prior CPM notification and approval.

- A. All diesel-fueled engines used in the construction of the facility shall be fueled only with ultra-low sulfur diesel, which contains no more than 15 ppm sulfur.
- B. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the conditions set forth herein.
- C. All construction diesel engines, which have a rating of 100 hp or more, shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a catalyzed diesel particulate filter (soot filter), unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is "not practical" if, among other reasons:
 1. There is no available soot filter that has been certified by either the California Air Resources Board (ARB) or U.S. Environmental Protection Agency (EPA) for the engine in question; or

2. The construction equipment is intended to be on-site for ten (10) days or less.
 3. The CPM may grant relief from this requirement if the AQCMM can demonstrate that they have made a good faith effort to comply with this requirement and that compliance is not possible.
- D. The use of a soot filter may be terminated immediately if one of the following conditions exists, provided that the CPM is informed within ten (10) working days of the termination:
1. The use of the soot filter is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure.
 2. The soot filter is causing or is reasonably expected to cause significant engine damage.
 3. The soot filter is causing or is reasonably expected to cause a significant risk to workers or the public.
 4. Any other seriously detrimental cause which has the approval of the CPM prior to the termination being implemented.
- E. All heavy earthmoving equipment and heavy duty construction related trucks with engines meeting the requirements of (c) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.
- F. All diesel heavy construction equipment shall not remain running at idle for more than five minutes, to the extent practical.

Verification: The AQCMM shall include in the MCR:

1. A summary of all actions taken to maintain compliance with this condition,
2. A list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that equipment has been properly maintained, and
3. Any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC6 Construction activities shall be limited to the hours between one hour after sunrise and one hour before sunset.

Verification: The project owner shall include in the MCR a summary of all actions taken to maintain compliance with this condition.

AQ-SC7 The project owner shall provide the CPM copies of all District issued Authority-to-Construct (ATC) and Permit-to-Operate (PTO) for the facility.

The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the District or U.S. EPA, and any revised permit issued by the District or U.S. EPA, for the project.

Verification: The project owner shall submit any ATC, PTO, and any proposed air permit modification to the CPM within five working days of its submittal either by 1) the project owner to an agency, or 2) receipt of proposed modifications from an agency. The project owner shall submit all modified air permits to the CPM within 15 days of receipt.

AQ-SC8 The project owner shall provide valid evidence that 270 tons per year of VOC emission reduction credits from the South Coast Air Quality Management District Priority Reserve have been purchased prior to start of construction of the project.

Verification: The project owner shall submit to the CPM a copy of all ERCs to be surrendered to the District at least 60 days prior to start construction.

AQ-SC9 The project owner shall pave, with asphalt concrete that meets the current county road standards, unpaved local roads to provide emission reductions of 132.7 tons per year of PM_{2.5}, prior to start construction of the project. Calculations of PM_{2.5} emission reduction credits shall be performed in accordance with Sections 13.2.1 and 13.2.2 of the U.S. EPA's AP-42 "Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources", Fifth Edition, and PM_{2.5} portion shall be calculated as being equal to 10% of the total PM₁₀ road dust emission reduction credits.

Verification: At least one year prior to start of construction, the project owner shall submit to the CPM and the District, for approval, a list and pictures of candidate roads to be paved, their actual daily average traffic count including classifications of vehicles (ADT), and daily vehicle miles travel (DVMT), their actual road dust silt content, and calculations showing the appropriate amount of emissions reductions due to paving of each road segment. All paving of roads shall be complete at least 15 days prior to start of construction of the project.

AQ-SC10 The project owner shall provide signs throughout the facility that will limit traveling on unpaved portion of roadways to solar equipment maintenance vehicles only. In addition, vehicle speed shall be limited to no more than 10 miles per hour on these unpaved roadways.

Verification: At least 60 days prior to start construction, the project owner shall submit to the CPM a copy of the plant lay out, which identifies all locations of the speed limit signs.

AQ-SC11 Until the California Global Warming Solutions Act of 2006 (AB32) is implemented, the project owner shall either participate in a climate action registry approved by the CPM, or report on an annual basis to the CPM the quantity of greenhouse gases (GHG) emitted as a direct result of facility electricity production.

The project owner shall maintain a record of fuel types and carbon content used on-site for the purpose of power production. These fuels shall include but are not limited to each fuel type burned: (1) in combustion turbines, (2) HRSGs (if applicable) or auxiliary boiler (if applicable), (3) internal combustion engines, (4) flares, and/or (5) for the purpose of startup, shutdown, operation or emission controls.

The project owner may perform annual source tests of CO₂ and CH₄ emissions from the exhaust stacks while firing the facility's primary fuel, using the following test methods or other test methods as approved by the CPM. The project owner shall produce fuel-based emission factors in units of lbs

CO₂ equivalent per mmBtu of fuel burned from the annual source tests. If a secondary fuel is approved for the facility, the project owner may also perform these source tests while firing the secondary fuel.

Pollutant	Test Method
CO ₂	EPA Method 3A
CH ₄	EPA Method 18 (POC measured as CH ₄)

As an alternative to performing annual source tests, the project owner may use the Intergovernmental Panel on Climate Change (IPCC) Methodologies for Estimating Greenhouse Gas Emissions (MEGGE). If MEGGE is chosen, the project owner shall calculate the CO₂, CH₄ and N₂O emissions using the appropriate fuel-based carbon content coefficient (for CO₂) and the appropriate fuel-based emission factors (for CH₄ and N₂O).

The project owner shall convert the N₂O and CH₄ emissions into CO₂ equivalent emissions using the current IPCC Global Warming Potentials (GWP). The project owner shall maintain a record of all SF₆ that is used for replenishing on-site high voltage equipment. At the end of each reporting period, the project owner shall total the mass of SF₆ used and convert that to a CO₂ equivalent emission using the IPCC GWP for SF₆. The project owner shall maintain a record of all PFCs

and HFCs that are used for replenishing on-site refrigeration and chillers directly related to electricity production. At the end of each reporting period, the project owner shall total the mass of PFCs and HFCs used and not recycled and convert that to a CO₂ equivalent emission using the IPCC GWP.

On an annual basis, the project owner shall report the CO₂ and CO₂ equivalent emissions from the described emissions of CO₂, N₂O, CH₄, SF₆, PFCs, and HFCs.

Verification: The project annual GHG emissions shall be reported, as a CO₂ equivalent, by the project owner to a climate action registry approved by the CPM, or to the CPM as part of the fourth Quarterly or the annual Air Quality Report, until such time that GHG reporting requirements are adopted and in force for the project as part of the California Global Warming Solutions Act of 2006.

DISTRICT'S PERMIT CONDITIONS

COMBUSTION TURBINE GENERATOR POWER BLOCKS (TWO IDENTICAL UNITS)

AQT-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: Not necessary.

AQT-2 This equipment shall be exclusively fueled with pipeline quality natural gas with a sulfur content not exceeding 0.2 grains per 100 dscf on a rolling twelve month average basis, and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: The project owner shall complete, on a monthly basis, a laboratory analysis showing the sulfur content of natural gas being burned at the facility. The sulfur analysis reports shall be incorporated into the quarterly compliance reports.

AQT-3 This equipment is subject to the federal NSPS codified at 40 CFR Part 60, Subparts A (General Provisions) and KKKK (Standards of Performance for New Stationary Gas Turbines). This equipment is also subject to the Prevention of Significant Deterioration (40 CFR 51.166) and Federal Acid Rain (Title IV) programs. Compliance with all applicable provisions of these regulations is required.

Verification: At least 90 days prior to construction of the project, the project owner shall provide the District, the ARB and the CEC CPM copies of the federal PSD and Acid Rain permits.

AQT-4 Emissions from this equipment (including its associated duct burner) shall not exceed the following emission limits at any firing rate, except for CO, NO_x and VOC during periods of startup, shutdown and malfunction:

- A. Hourly rates, computed every 15 minutes, verified by CEMS and annual compliance tests:
 - 1. NO_x as NO₂ – 15.60 lb/hr (based on 2.0 ppmvd corrected to 15% O₂ and averaged over one hour)
 - 2. CO – 14.25 lb/hr (based on 2.0 ppmvd (3.0 ppmvd with duct firing) corrected to 15% O₂ and averaged over one hour)
- B. Hourly rates, verified by annual compliance tests or other compliance methods in the case of SO_x:
 - 1. VOC as CH₄ – 5.44 lb/hr (based on 1.4 ppmvd (2.0 ppmvd with duct firing) corrected to 15% O₂)
 - 2. SO_x as SO₂ – 1.21 lb/hr (based on 0.2 grains/100 dscf fuel sulfur)
 - 3. PM₁₀ – 18.0 lb/hr

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

AQT-5 Emissions of CO and NO_x from this equipment shall only exceed the limits contained in Condition 4 during startup and shutdown periods as follows:

- A. Startup is defined as the period beginning with ignition and lasting until the equipment has reached operating permit limits. Cold startup is defined as a startup when the CTG has not been in operation during the preceding 48 hours. Other startup is defined as a startup that is not a cold startup. Shutdown is defined as the period beginning with the lowering of equipment from base load and lasting until fuel flow is completely off and combustion has ceased.
- B. Transient conditions shall not exceed the following durations:
 - 1. Cold startup – 108 minutes
 - 2. Other startup – 78 minutes
 - 3. Shutdown – 30 minutes
- C. During a cold startup emissions shall not exceed the following, verified by CEMS:
 - 1. NO_x – 96 lb

2. CO – 410 lb
- D. During any other startup emissions shall not exceed the following, verified by CEMS:
1. NO_x – 40 lb
 2. CO – 329 lb
- E. During a shutdown emissions shall not exceed the following, verified by CEMS:
1. NO_x – 57 lb
 2. CO – 337 lb

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

- AQT-6** Emissions from this facility, including the duct burner, auxiliary equipment, engines and cooling tower, shall not exceed the following emission limits, based on a calendar day summary:
- A. NO_x – 1306 lb/day, verified by CEMS
 - B. CO – 4824 lb/day, verified by CEMS
 - C. VOC as CH₄ – 556 lb/day, verified by compliance tests and hours of operation in mode
 - D. SO_x as SO₂ – 59 lb/day, verified by fuel sulfur content and fuel use data
 - E. PM₁₀ – 917 lb/day, verified by compliance tests and hours of operation

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

- AQT-7** Emissions from this facility, including the duct burner, auxiliary equipment, engines and cooling tower, shall not exceed the following emission limits, based on a rolling 12 month summary:
- A. NO_x – 108 tons/year, verified by CEMS
 - B. CO – 255 tons/year, verified by CEMS
 - C. VOC as CH₄ – 34 tons/year, verified by compliance tests and hours of operation in mode
 - D. SO_x as SO₂ – eight tons/year, verified by fuel sulfur content and fuel use data

E. PM₁₀ – 124 tons/year, verified by compliance tests and hours of operation

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

AQT-8 Particulate emissions from this equipment shall not exceed an opacity equal to or greater than 20% for a period aggregating more than three minutes in any one hour, excluding uncombined water vapor.

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

AQT-9 This equipment shall exhaust through a stack at a minimum height of 145 feet.

Verification: At least 120 days prior to construction of the turbine stacks, the project owner shall provide the District and CPM an “approved for construction” drawing showing the appropriate stack height and location of sampling ports and platforms. The project owner shall make the site available to the District, EPA and CEC staff for inspection.

AQT-10 The owner/operator (O.O.) shall not operate this equipment after the initial commissioning period without the oxidation catalyst with valid District permit C00nnnn and the selective catalytic reduction system with valid District permit C00nnnn installed and fully functional.

Verification: As part of the quarterly and annual compliance reports, the project owner shall provide information on any major problem in the operation of the oxidizing catalyst and SCR Systems for the gas turbines and HRSGs. The information shall include, at a minimum, the date and description of the problem and the steps taken to resolve the problem.

AQT-11 The O.O. shall provide stack sampling ports and platforms necessary to perform source tests required to verify compliance with District rules, regulations and permit conditions. The location of these ports and platforms shall be subject to District approval.

Verification: At least 120 days prior to construction of the turbine stacks, the project owner shall provide the District and CPM an “approved for construction” drawing showing the appropriate stack height and location of sampling ports and platforms. The project owner shall make the site available to the District, EPA and CEC staff for inspection.

AQT-12 Emissions of NO_x, CO, oxygen and ammonia slip shall be monitored using a Continuous Emissions Monitoring System (CEMS). Turbine fuel consumption shall be monitored using a continuous monitoring system. Stack gas flow rate shall be monitored using either a Continuous Emission Rate Monitoring System (CERMS) meeting the

requirements of 40 CFR 75 Appendix A or a stack flow rate calculation method.

Verification: The O.O. shall install, calibrate, maintain, and operate these monitoring systems according to a District-approved monitoring plan and MDAQMD Rule 218, and they shall be installed prior to initial equipment startup after initial steam blows are completed. Two (2) months prior to installation the operator shall submit a monitoring plan for District review and approval.

AQT-13 The O.O. shall conduct all required compliance/certification tests in accordance with a District-approved test plan. Thirty (30) days prior to the compliance/certification tests the operator shall provide a written test plan for District review and approval. Written notice of the compliance/certification test shall be provided to the District ten (10) days prior to the tests so that an observer may be present. A written report with the results of such compliance/certification tests shall be submitted to the District within forty-five (45) days after testing.

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

AQT-14 The O.O. shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:

- A. NO_x as NO₂ in ppmvd at 15% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).
- B. VOC as CH₄ in ppmvd at 15% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18).
- C. SO_x as SO₂ in ppmvd at 15% oxygen and lb/hr.
- D. CO in ppmvd at 15% oxygen and lb/hr (measured per USEPA Reference Method 10).
- E. PM₁₀ in mg/m³ at 15% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).
- F. Flue gas flow rate in dscf per minute.
- G. Opacity (measured per USEPA reference Method 9).
- H. Ammonia slip in ppmvd at 15% oxygen.

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

AQT-15 The O.O. shall, at least as often as once every five years (commencing with the initial compliance test), include the following supplemental source tests in the annual compliance testing:

- A. Characterization of cold startup VOC emissions;
- B. Characterization of other startup VOC emissions; and
- C. Characterization of shutdown VOC emissions.

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

AQT-16 Continuous monitoring systems shall meet the following acceptability testing requirements from 40 CFR 60 Appendix B (or otherwise District approved):

- A. For NO_x, Performance Specification 2.
- B. For O₂, Performance Specification 3.
- C. For CO, Performance Specification 4.
- D. For stack gas flow rate, Performance Specification 6 (if CERMS is installed).
- E. For ammonia, a District approved procedure that is to be submitted by the O.O.
- F. For stack gas flow rate (without CERMS), a District approved procedure that is to be submitted by the O.O.

Verification: At least 120 days prior to construction of the turbine stacks, the project owner shall provide the District and CPM, for approval, a detailed drawing and a plan on how the measurements and recordings, required by this condition, will be performed by the chosen monitoring system.

AQT-17 The O.O. shall submit to the APCO and USEPA Region IX the following information for the preceding calendar quarter by January 30, April 30, July 30 and October 30 of each year this permit is in effect. Each January 30 submittal shall include a summary of the reported information for the previous year. This information shall be maintained on site and current for a minimum of five (5) years and shall be provided to District personnel on request:

- A. Operating parameters of emission control equipment, including but not limited to ammonia injection rate, NO_x emission rate and ammonia slip.
- B. Total plant operation time (hours), duct burner operation time (hours), number of startups, hours in cold startup, hours in other startup, and hours in shutdown.
- C. Date and time of the beginning and end of each startup and shutdown period.
- D. Average plant operation schedule (hours per day, days per week, weeks per year).
- E. All continuous emissions data reduced and reported in accordance with the District-approved CEMS protocol.
- F. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM₁₀, VOC and SO_x (including calculation protocol).
- G. Fuel sulfur content (monthly laboratory analyses, monthly natural gas sulfur content reports from the natural gas supplier(s), or the results of a custom fuel monitoring schedule approved by USEPA for compliance with the fuel monitoring provisions of 40 CFR 60 Subpart KKKK)
- H. A log of all excess emissions, including the information regarding malfunctions/breakdowns required by Rule 430.
- I. Any permanent changes made in the plant process or production which would affect air pollutant emissions, and indicate when changes were made.
- J. Any maintenance to any air pollutant control system (recorded on an as-performed basis).

Verification: The project owner shall prepare quarterly reports for the preceding calendar quarters by January 30, April 30, July 30 and October 30 with the January 30 report including an annual summary. The reports shall be submitted to the District, EPA and the CPM.

AQT-18 The O.O. must surrender to the District sufficient valid Emission Reduction Credits for this equipment before the start of construction of any part of the project for which this equipment is intended to be used. In accordance with Regulation XIII the operator shall obtain 141 tons of NO_x, 45 tons of VOC, and 124 tons of PM₁₀ offsets (VOC ERCs may be substituted for NO_x ERCs at a ratio of 1.6:1).

Verification: The project owner shall submit to the CPM a copy of all ERCs to be surrendered to the District at least 60 days prior to start construction.

AQT-19 During an initial commissioning period of no more than 180 days, commencing with the first firing of fuel in this equipment, NO_x, CO, VOC and ammonia concentration limits shall not apply. The O.O. shall minimize emission of NO_x, CO, VOC and ammonia to the maximum extent possible during the initial commissioning period.

Verification: The project owner shall submit a MCR to the CPM specifying how this condition is being complied with. In addition, the project owner shall provide evidence of the District's approval of the emission monitoring system to the CPM prior to first firing of the gas turbines.

AST-20 The O.O. shall tune each CTG and HRSG to minimize emissions of criteria pollutants at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor.

Verification: The project owner shall submit a MCR to the CPM specifying how this condition is being complied with. In addition, the project owner shall provide evidence of the District's approval of the emission monitoring system to the CPM prior to first firing of the gas turbines.

AQT-21 The O.O. shall install, adjust and operate each SCR system to minimize emissions of NO_x from the CTG and HRSG at the earliest feasible opportunity in accordance with the recommendations of the equipment manufacturers and the construction contractor. The NO_x and ammonia concentration limits shall apply coincident with the steady state operation of the SCR systems.

Verification: The project owner shall submit a MCR to the CPM specifying how this condition is being complied with. In addition, the project owner shall provide evidence of the District's approval of the emission monitoring system to the CPM prior to first firing of the gas turbines.

AQT-22 The O.O. shall submit a commissioning plan to the District and the CEC at least four weeks prior to the first firing of fuel in this equipment. The commissioning plan shall describe the procedures to be followed during the commissioning of the CTGs, HRSGs and steam turbine. The commissioning plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of the activity. The activities described shall include, but not be limited to, the tuning of the dry low NO_x combustors, the installation and testing of the CEMS, and any activities requiring the firing of the CTGs and HRSGs without abatement by an SCR system.

Verification: The project owner shall submit a MCR to the CPM specifying how this condition is being complied with.

AQT-23 The total number of firing hours of each CTG and HRSG without abatement of NO_x by the SCR shall not exceed 624 hours during the initial commissioning period. Such operation without NO_x abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system in place and operating. Upon completion of these activities, the O.O. shall provide written notice to the District and CEC and the unused balance of the unabated firing hours shall expire.

Verification: The project owner shall submit a MCR to the CPM specifying how this condition is being complied with.

AQT-24 During the initial commissioning period, emissions from this facility, including start up and shut down emissions from the turbines and all other associated and emergency equipment, shall not exceed the following emission limits (verified by CEMS):

A. NO_x - 32 tons, and 242 pounds/hour/CTG

B. CO - 118 tons, and 1337 pounds/hour/CTG

In addition the total emissions from the commissioning period shall be accrued toward the annual emission limits specified in Condition **AQT-7**.

Verification: The project owner shall submit a MCR to the CPM specifying how this condition is being complied with.

AQT-25 Within 60 days after achieving the maximum firing rate at which the facility will be operated, but not later than 180 days after initial startup, the operator shall perform an initial compliance test. This test shall demonstrate that this equipment is capable of operation at 100% load in compliance with the emission limits in Condition **AQT-4**.

Verification: No later than 30 working days before the commencement of the source tests, the project owner shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this condition. In addition, the source tests shall include a minimum of three start-up and three shutdown periods and shall include at least one cold start, and one hot or warm start. The project owner shall incorporate the District and CPM comments into the test plan. The project owner shall notify the District and the CPM at least seven (7) working days prior to the planned source testing date. Source test results shall be submitted to the District and the CPM within 60 days of the source testing date.

AQT-26 The initial compliance test shall include tests for the following. The results of the initial compliance test shall be used to prepare a supplemental health risk analysis if required by the District:

A. PAH;

- B. Certification of CEMS and CERMS (or stack gas flow calculation method) at 100% load, startup modes and shutdown mode;
- C. Characterization of cold startup VOC emissions;
- D. Characterization of other startup VOC emissions; and
- E. Characterization of shutdown VOC emissions.

Verification: No later than 30 working days before the commencement of the source tests, the project owner shall submit to the District and the CPM a detailed source test plan designed to satisfy the requirements of this condition. Source test results shall be submitted to the District and the CPM within 60 days of the source testing date.

HRSG DUCT BURNERS (TWO IDENTICAL UNITS)

AQDB-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: Not necessary.

AQDB-2 This equipment shall be exclusively fueled with natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: The project owner shall complete, on a monthly basis, a laboratory analysis showing the sulfur content of natural gas being burned at the facility. The sulfur analysis reports shall be incorporated into the quarterly compliance reports.

AQDB-3 The duct burner shall not be operated unless the combustion turbine generator with valid District permit #, catalytic oxidation system with valid District permit #, and selective catalytic NO_x reduction system with valid District permit # are in operation.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQDB-4 This equipment shall not be operated for more than 2000 hours per rolling twelve month period.

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

AQDB-5 Monthly hours of operation for this equipment shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

OXIDATION CATALYST SYSTEMS (TWO IDENTICAL UNITS)

AQOC-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQOC-2 This equipment shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQOC-3 This equipment shall be operated concurrently with the combustion turbine generator with valid District permit B00nnnn.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

SELECTIVE CATALYTIC REDUCTION SYSTEMS (TWO IDENTICAL UNITS)

AQSCR-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQSCR-2 This equipment shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQSCR-3 This equipment shall be operated concurrently with the combustion turbine generator with valid District permit B00nnnn.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQSCR-4 Ammonia shall be injected whenever the selective catalytic reduction system has reached or exceeded 550° Fahrenheit except for periods of equipment malfunction. Except during periods of startup, shutdown and malfunction, ammonia slip shall not exceed 5 ppmvd (corrected to 15% O₂), averaged over three hours.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQSCR-5 Ammonia injection by this equipment in pounds per hour shall be recorded and maintained on site for a minimum of five (5) years and shall be provided to MDAQMD personnel on request.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

COOLING TOWER

AQCT-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQCT-2 This equipment shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQCT-3 The drift rate shall not exceed 0.0005% with a maximum circulation rate of 130,000 gallons per minute. The maximum hourly PM₁₀ emission rate shall not exceed 1.63 pounds per hour, as calculated per the written District-approved protocol.

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

AQCT-4 The operator shall perform weekly tests of the blow-down water total dissolved solids (TDS). The operator shall maintain a log which contains the date and result of each blow-down water test in TDS ppm,

and the resulting mass emission rate. This log shall be maintained on site for a minimum of five (5) years and shall be provided to District personnel on request.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQCT-5 The operator shall conduct all required cooling tower water tests in accordance with a District-approved test and emissions calculation protocol. Thirty (30) days prior to the first such test the operator shall provide a written test and emissions calculation protocol for District review and approval.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQCT-6 A maintenance procedure shall be established that states how often and what procedures will be used to ensure the integrity of the drift eliminators. This procedure is to be kept on-site and available to District personnel on request.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AUXILIARY BOILER

AQB-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQB-2 This equipment shall be exclusively fueled with natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQB-3 Emissions from this equipment shall not exceed the following hourly emission limits at any firing rate, verified by fuel use and annual compliance tests:

- A. NO_x as NO_2 – 0.39 lb/hr (based on 9.0 ppmvd corrected to 3% O_2 and averaged over one hour)

- B. CO – 2.59 lb/hr (based on 100 ppmvd corrected to 3% O₂ and averaged over one hour)
- C. VOC as CH₄ – 0.19 lb/hr
- D. SO_x as SO₂ – 0.02 lb/hr (based on 0.2 grains/100 dscf fuel sulfur)
- E. PM₁₀ – 0.26 lb/hr (front and back half)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

AQB-4 This equipment shall not be operated for more than 500 hours per rolling twelve month period.

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

AQB-5 The O.O. shall maintain an operations log for this equipment on-site and current for a minimum of five (5) years, and said log shall be provided to District personnel on request. The operations log shall include the following information at a minimum:

- A. Total operation time (hours per month, by month);
- B. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM₁₀, VOC and SO_x (including calculation protocol); and,
- C. Any permanent changes made to the equipment that would affect air pollutant emissions, and indicate when changes were made.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQB-6 The O.O. shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:

- A. NO_x as NO₂ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).
- B. VOC as CH₄ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18).
- C. SO_x as SO₂ in ppmvd at 3% oxygen and lb/hr.
- D. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10).

- E. PM₁₀ in mg/m³ at 3% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).
- F. Flue gas flow rate in dscf per minute.
- G. Opacity (measured per USEPA reference Method 9).

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

HTF HEATER

AQHH-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQHH-2 This equipment shall be exclusively fueled with natural gas and shall be operated and maintained in strict accord with the recommendations of its manufacturer or supplier and/or sound engineering principles.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQHH-3 Emissions from this equipment shall not exceed the following hourly emission limits at any firing rate, verified by fuel use and annual compliance tests:

- A. NO_x as NO₂ – 0.44 lb/hr (based on 9.0 ppmvd corrected to 3% O₂ and averaged over one hour)
- B. CO – 2.96 lb/hr (based on 100 ppmvd corrected to 3% O₂ and averaged over one hour)
- C. VOC as CH₄ – 0.22 lb/hr
- D. SO_x as SO₂ – 0.02 lb/hr (based on 0.2 grains/100 dscf fuel sulfur)
- E. PM₁₀ – 0.30 lb/hr (front and back half)

Verification: The project owner shall submit to the District and CPM the quarterly and annual compliance reports as required by **AQT-17**.

AQHH-4 This equipment shall not be operated for more than 1000 hours per rolling twelve month period.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQHH-5 The O.O. shall maintain an operations log for this equipment on-site and current for a minimum of five (5) years, and said log shall be provided to District personnel on request. The operations log shall include the following information at a minimum:

- A. Total operation time (hours per month, by month);
- B. Maximum hourly, maximum daily, total quarterly, and total calendar year emissions of NO_x, CO, PM₁₀, VOC and SO_x (including calculation protocol); and,
- C. Any permanent changes made to the equipment that would affect air pollutant emissions, and indicate when changes were made.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQHH-6 The O.O. shall perform the following annual compliance tests on this equipment in accordance with the MDAQMD Compliance Test Procedural Manual. The test report shall be submitted to the District no later than six weeks prior to the expiration date of this permit. The following compliance tests are required:

- A. NO_x as NO₂ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 19 and 20).
- B. VOC as CH₄ in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Methods 25A and 18).
- C. SO_x as SO₂ in ppmvd at 3% oxygen and lb/hr.
- D. CO in ppmvd at 3% oxygen and lb/hr (measured per USEPA Reference Method 10).
- E. PM₁₀ in mg/m³ at 3% oxygen and lb/hr (measured per USEPA Reference Methods 5 and 202 or CARB Method 5).
- F. Flue gas flow rate in dscf per minute.
- G. Opacity (measured per USEPA reference Method 9).

Verification: The project owner shall notify the District and the CPM within seven (7) working days before the execution of the source tests required in this condition. Source test results shall be submitted to the District and to the CPM within 60 days of the date of the tests.

EMERGENCY GENERATOR

AQEG-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQEG-2 This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQEG-3 This unit shall be limited to use for emergency power, defined as when commercially available power has been interrupted. In addition, this unit may be operated as part of a testing program that does not exceed 50 hours of testing or maintenance per calendar year.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQEG-4 This unit shall only be fired on ultra-low sulfur diesel fuel, whose sulfur concentration is less than or equal to 15 ppm on a weight basis per CARB Diesel or equivalent requirements.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQEG-5 A non-resettable four digit hour timer shall be installed and maintained on this unit to indicate elapsed engine operating time.

Verification: At least 120 days prior to installation, the project owner shall provide the District and CPM an "approved for construction" drawing showing the appropriate hour timer. The project owner shall make the site available to the District, EPA and CEC staff for inspection.

AQEG-6 The owner/operator shall maintain a log for this unit, which, at a minimum, contains the information specified below. This log shall be maintained current and on-site for a minimum of five (5) years and shall be provided to District personnel on request:

- A. Date of each use or test;
- B. Duration of each use or test in hours;
- C. Reason for each use;

- D. Cumulative calendar year use, in hours; and,
- E. Fuel sulfur concentration (the O.O. may use the supplier's certification of sulfur content if it is maintained as part of this log).

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQEG-7 This equipment shall comply with the applicable requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Title 17 CCR 93115).

Verification: At least 120 days prior to installation, the project owner shall provide the District and CPM an "approved for construction" drawing showing the engine specifications. The project owner shall make the site available to the District, EPA and CEC staff for inspection.

EMERGENCY FIRE SUPPRESSION WATER PUMP

AQFP-1 Operation of this equipment shall be conducted in compliance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQFP-2 This equipment shall be installed, operated and maintained in strict accord with those recommendations of the manufacturer/supplier and/or sound engineering principles which produce the minimum emissions of contaminants.

Verification: As part of the quarterly and annual compliance reports, the project owner shall include information on the date, time, and duration of any violation of this permit condition.

AQFP-3 This unit shall be limited to use for emergency fire fighting. In addition, this unit may be operated as part of a testing program that does not exceed 50 hours of testing or maintenance per calendar year.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQFP-4 This unit shall only be fired on ultra-low sulfur diesel fuel, whose sulfur concentration is less than or equal to 15 ppm on a weight basis per CARB Diesel or equivalent requirements.

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQFP-5 A non-resettable four digit hour timer shall be installed and maintained on this unit to indicate elapsed engine operating time.

Verification: At least 120 days prior to installation, the project owner shall provide the District and CPM an “approved for construction” drawing showing the appropriate hour timer. The project owner shall make the site available to the District, EPA and CEC staff for inspection.

AQFP-6 The owner/operator shall maintain a log for this unit, which, at a minimum, contains the information specified below. This log shall be maintained current and on-site for a minimum of five (5) years and shall be provided to District personnel on request:

- A. Date of each use or test;
- B. Duration of each use or test in hours;
- C. Reason for each use;
- D. Cumulative calendar year use, in hours; and,
- E. Fuel sulfur concentration (the O.O. may use the supplier’s certification of sulfur content if it is maintained as part of this log).

Verification: During site inspection, the project owner shall make all records and reports available to the District, ARB, EPA or CEC staff.

AQFP-7 This equipment shall comply with the applicable requirements of the Airborne Toxic Control Measure (ATCM) for Stationary Compression Ignition Engines (Title 17 CCR 93115).

Verification: At least 120 days prior to installation, the project owner shall provide the District and CPM an “approved for construction” drawing showing the engine specifications. The project owner shall make the site available to the District, EPA and CEC staff for inspection.

B. PUBLIC HEALTH

The public health analysis considers the potential public health effects of project emissions of toxic pollutants. In this analysis, we review the evidence concerning whether such emissions will result in significant adverse public health impacts that violate standards for public health protection.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will release toxic contaminants to which the public could be exposed through inhalation, skin contact or ingestion via contaminated food or water. State and federal regulatory programs have developed health risk assessment procedures to evaluate potential health effects from these releases.

The risk assessment consists of the following steps:

- Identify the types and amounts of hazardous substances that Victorville 2 could release to the environment;
- Estimate worst-case concentrations of project emissions in the environment using dispersion modeling;
- Estimate amounts of pollutants to which people could be exposed through inhalation, ingestion, and skin contact; and
- Characterize potential health risks by comparing worst-case exposure to safe standards based on known health effects. (Ex. 200, p. 4.7-3)

The risks assessment methodology is to examine conditions that would lead to the highest, or worst-case, risks. Such conditions include:

- Using the highest levels of pollutants that could be emitted from the plant;
- Assuming weather conditions that would lead to the maximum ambient concentration of pollutants;
- Using the type of air quality computer model which predicts the greatest plausible impacts;

- Calculating health risks at the location where the pollutant concentrations are estimated to be the highest;
- Assuming that an individual's exposure to cancer-causing agents occurs continuously for 70 years; and
- Using health-based standards designed to protect the most sensitive members of the population (i.e., the young, elderly, and those with respiratory illnesses). (Ex. 200, p. 4.7-3)

The assessment process addresses three categories of health impacts. Acute health effects result from short-term (one-hour) exposure to relatively high concentrations of pollutants. Chronic health effects are those which arise as a result of long-term exposure to lower concentrations of pollutants. The exposure period is considered to be approximately from twelve to one hundred percent of a lifetime, or from eight to seventy years. Cancer effects are those cancer risks associated with exposure to pollutants.

The analysis for non-cancer health effects compares the maximum project contaminant levels to safe levels called "reference exposure levels" or RELs. The RELs are based on the most sensitive adverse health effects reported, and include margins of safety. (Ex. 200, p. 4.7-4)

For carcinogenic substances, the health assessment considers the risk of developing cancer and assumes that continuous exposure to the cancer-causing substance occurs over a 70-year lifetime. The risk that is calculated is not meant to project the actual expected incidence of cancer, but rather a theoretical upper-bound number based on worst-case assumptions. (*id.*)

Cancer risk is expressed in chances per million, and is a function of the maximum expected pollutant concentration, the probability that a particular pollutant will cause cancer, and the length of the exposure period. Cancer risks for each carcinogen are added to yield total cancer risk. The conservative nature of the screening assumptions used means that actual cancer risks due to project

emissions are likely to be considerably lower than those estimated. (Ex. 200, p. 4.7-5)

If the screening analysis predicts no significant risks, then no further analysis is required. However, if risks are above the significance level then further analysis, using more realistic, site-specific assumptions is performed to obtain a more accurate assessment of potential public health risks. (*id.*)

A total hazard index of less than one indicates that cumulative worst-case exposures are less than, or below, the safe levels. Cancer risks are calculated based on the total risk from exposure to all cancer causing chemicals. A significant increased lifetime cancer risk occurs if one excess case of cancer in an exposed population of 100,000 (equivalent to a risk of ten in one million or 10×10^{-6}) is calculated to occur. (Ex. 200, pp. 4.7-5 - 4.7-6)

Toxic emissions will be attributable to the project during both its construction and its operation phases. Applicant and Staff each performed an analysis of the impacts of Victorville 2 which evaluated potential cancer and non-cancer health risks to the public. (Ex. 16, pp. 6.11-28 - 6.11-33; Ex 200, pp. 4.7-9 - 4.7-11)

The evidence shows that construction impacts of potential significance would result from the possible impacts of PM10 or PM 2.5 as a criteria pollutant for the 27-month construction period. The potential for significant impacts from criteria pollutants is assessed in the **AIR QUALITY** section, where the requirements for the identified mitigation measures are presented as specific conditions of certification. Diesel emissions from sources such as trucks, and other construction equipment will also occur. However, the control measures specified in **AIR QUALITY** conditions of certification **AQ-SC3** and **AQ-SC4** are adequate to reduce any exposure to levels that would not pose a significant cancer risk, especially in this relatively short construction period. (Ex. 200, p. 4.7-9)

During operation, the emission sources at Victorville 2 include combustion turbines, heat transfer fluid (Therminol VP-1), the emergency diesel firewater pump engine, and the evaporative cooling tower. The evidence of record explains the methodology used in identifying and quantifying the emission rates of the toxic non-criteria pollutants which could adversely affect public health. (Ex. 200, pp. 4.7-3 - 4.7-6)

Victorville 2's potential contributions to the area's carcinogenic and non-carcinogenic pollutants were obtained from a screening-level health risk assessment conducted according to procedures specified in the 1993 CAPCOA guidelines by the Applicant. The results from this assessment are summarized in **Public Health Table 1**. Staff reviewed the assumptions used in the assessment and validated the Applicant's results. (Ex. 200, p. 4.7-10)

Applicant's screening health risk assessment for the project, including combustion and non-combustion emissions, resulted in a maximum acute hazard index of 0.11 and a maximum chronic hazard index of 0.015. As **PUBLIC HEALTH Table 1** show, both acute and chronic hazard indices are under the significance level of 1.0, indicating that no short- or long-term adverse health effects are expected.

**PUBLIC HEALTH Table 1
Operation Hazard/Risk at Point of Maximum Impact**

Type of Hazard/Risk	Hazard Index/Risk	Significance Level	Significant?
Acute Non-cancer	0.11	1.0	No
Chronic Non-cancer	0.015	1.0	No
Individual Cancer	0.73x10 ⁻⁶ (a)	10.0 x 10 ⁻⁶	No

Ex. 200, p. 4.7-12

As also shown in **PUBLIC HEALTH Table 1**, the calculated total worst-case individual cancer risk is 0.73 in one million at the location of maximum impact,

which is well below the significance criterion of 10 in 1,000,000 for this screening-level assessment. (Ex. 200, p. 4.7-12)

Finally, the record shows that in addition to being a source of potential toxic air contaminants, the possibility exists for bacterial growth, including Legionella, to occur in the cooling tower. It is the principal cause of legionellosis, otherwise known as Legionnaires' disease, which is similar to pneumonia. Transmission to people results mainly from inhalation or aspiration of aerosolized contaminated water. Untreated or inadequately treated cooling systems, such as industrial cooling towers and building heating, ventilating, and air conditioning systems, have been correlated with outbreaks of legionellosis. (Ex. 200, p. 4.7-13)

According to the evidence of record, good preventive maintenance is very important in the efficient operation of cooling towers and other evaporative equipment. Preventive maintenance includes having effective drift eliminators, periodically cleaning the system if appropriate, maintaining mechanical components in working order, and maintaining an effective water treatment program with appropriate biocide concentrations. (*id.*)

In order to ensure that Legionella growth is kept to a minimum, we adopt Condition of Certification **PUBLIC HEALTH-1**. This condition will require the project owner to prepare and implement a biocide and anti-biofilm agent monitoring program to ensure that proper levels of biocide and other agents are maintained within the cooling tower water at all times, that periodic measurements of Legionella levels are conducted, and that periodic cleaning is conducted to remove bio-film buildup. (Ex. 200, p. 4.7-13)

Due to the minimal changes in lifetime risk at the point of maximum impact and because those minimal risks decrease rapidly with increased distance from the facility, we find that there will be no significant cumulative impacts to public health from the construction or operation of this project.

FINDINGS AND CONCLUSIONS

Based on the persuasive weight of the evidence of record, the Commission makes the following findings and conclusions:

1. Construction and normal operation of the project will result in the routine release of criteria and noncriteria pollutants that have the potential to adversely impact public health.
5. Release of non-criteria pollutants from the Victorville 2 will not have acute or chronic adverse public health effects or cause a significant increase in cancer risk.
6. Emissions from the construction, operation, and closure of the proposed natural gas-burning Victorville 2 will not have a significant impact on the public health of the surrounding population.
7. The project owner will implement a Cooling Water Management Plan in accordance with applicable LORS and guidelines to minimize the potential for growth of Legionella bacteria and other micro-organisms in cooling tower emissions.

We therefore conclude that project emissions of noncriteria pollutants do not pose a significant direct, indirect, or cumulative adverse public health risk and that the project will comply with the applicable laws, ordinances, regulations, and standards.

CONDITION OF CERTIFICATION

PUBLIC HEALTH-1 The project owner shall develop and implement a Cooling Water Management Plan that is consistent with either staff's *Cooling Water Management Program Guidelines* or the Cooling Technology Institute's *Best Practices for Control of Legionella* guidelines.

Verification: At least 30 days prior to the commencement of cooling tower operations, the Cooling Water Management Plan shall be provided to the Compliance Project Manager for review and approval.

C. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Victorville 2 Project will create significant impacts to public health and safety resulting from the use, handling, or storage of hazardous materials. Several locational factors affect the potential for project-related hazardous materials to cause adverse impacts. These include local meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Engineering controls and administrative controls affect the significance of potential impacts from hazardous materials usage. Engineering controls are those physical or mechanical systems (such as storage tanks or automatic shut-off valves) which can prevent a hazardous material spill from occurring, which can limit the spill to a small amount, or which can confine it to a small area. Administrative controls are those rules and procedures that workers at the facility must follow. These are designed to help prevent accidents or keep them small if they do occur. These are specified at length in the evidence of record. In both cases, the goal is to prevent a spill from causing harm.

Hazardous materials, such as mineral and lubricating oils, corrosion inhibitors, and water conditioners will be present at the facility. Hazardous materials used during the construction phase include gasoline, diesel fuel, motor oil, hydraulic fluid, welding gases, lubricants, solvents, paint, and paint thinner. No acutely toxic hazardous materials will be used on-site during construction. (Ex. 200, p. 4.4-2)

The evidence of record includes an assessment of the risks posed by the use of hazardous materials. This assessment included the following elements:

- A review of chemicals and the amounts proposed for on-site use and a determination of the need and appropriateness of their use.
- Chemicals which would be used in small amounts, or whose physical state is such that there is virtually no chance that a spill would migrate off the site and impact the public, were removed from further consideration.
- Measures proposed to prevent spills were reviewed and evaluated. These included engineering controls such as automatic shut-off valves and different size transfer-hose couplings, as well as administrative controls such as worker training and safety management programs.
- Measures proposed to respond to accidents were reviewed and evaluated. These measures also included engineering controls such as catchment basins and methods to keep vapors from spreading, as well as administrative controls such as training emergency response crews.
- An analysis of the theoretical impacts on the public of a worst-case spill of hazardous materials even with the mitigation measures proposed.

(Ex. 200, pp. 4.4-6 - 4.4-7)

The evidence of record is clear that, except for aqueous ammonia, none of the hazardous materials which will be used during the project's construction and operation pose a significant potential for off-site impacts. This determination is based on the quantities on site, the substances' relative toxicity, physical state, or environmental mobility. (Ex. 200, pp. 4.4-1, 4.4-2, 4.4-12; Ex. 12, p. 6.7-10)

Although no natural gas is stored, the project will involve the handling of large amounts of this fuel, with an accompanying risk of fire and explosion. The evidence is similarly in accord that compliance with applicable codes which incorporate measures such as the use of double block and bleed valves for secure shut off, automated combustion controls, burner management, inspection of welds, and use of corrosion resistant coatings will suffice to adequately minimize the potential for off-site impacts. (Ex. 200, p. 4.4-8)

Aqueous ammonia is the only hazardous material that may pose a risk of off-site impacts. It will be used in controlling NO_x emissions from the combustion of natural gas in the facility. However, the use of aqueous ammonia poses far less risk than would the much more hazardous anhydrous ammonia (ammonia that is

not diluted with water). A single 30,000-gallon capacity above-ground storage tank will be used to store the 19 percent aqueous ammonia solution. (Ex. 200, p. 4.4-8; Ex. 12, p. 6.7-16)

At a maximum, Victorville 2 will require about 14 tanker truck deliveries of aqueous ammonia per month, for a total of 168 annual tanker truck deliveries, with each delivery totaling about 6, 000 gallons. (Ex. 200, p. 4.4-20, Ex. 12, p. 6.13-18.) Applicant and Staff each analyzed the risks associated with the transportation of hazardous materials – with emphasis on aqueous ammonia – in the vicinity of the project site. This evidence shows that the potential for accidental release during transport is exceedingly low, and that compliance with the existing body of regulations covering the transportation of hazardous materials, as well as the use of the type of delivery vehicle specified in Condition of Certification **HAZ-5**, will ensure that the risk to the public of exposure to significant concentrations of aqueous ammonia remains less than significant. (Ex. 200, pp. 4.4-13 - 4.4-14)

The record also contains a cumulative risk assessment of the potential for impacts due to a simultaneous release of aqueous ammonia from the proposed Victorville 2 and the High Desert Power Plant, both of which would use and store aqueous ammonia. The evidence indicates that, even in the highly unlikely event of a simultaneous failure of both tanks with resultant loss of their entire contents, the projects are far enough apart that vapor plumes would not combine to produce an airborne concentration that would present a significant risk. (Ex. 200, p. 4.4-16)

In conclusion, the evidence convinces us that the proposed Conditions of Certification adequately and appropriately prevent the occurrence of significant adverse impacts from the storage and transportation of hazardous materials which will be used during the construction and the operation of Victorville 2.

FINDINGS AND CONCLUSIONS

Based on the persuasive weight of the evidence, the Commission makes the following findings and reaches the following conclusions:

1. The Victorville 2 project will use hazardous materials during construction and operation, including aqueous ammonia and natural gas.
2. The major public health and safety hazard is associated with the catastrophic release of aqueous ammonia. It is the only hazardous material which will be stored on-site in reportable quantities.
3. A worst-case catastrophic release of aqueous ammonia will not pose a hazard to the public, nor result in off-site concentrations that would cause significant adverse impacts.
4. Compliance with appropriate administrative, engineering, and regulatory requirements for safe transportation, delivery, and storage of aqueous ammonia will reduce potential risks of accidental release to insignificant levels.
5. The risk of fire and explosion from natural gas will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices.
6. The evidence of record establishes that the hazardous materials used in the construction and operation of the Victorville 2, when considered in conjunction with those used at other facilities in the project vicinity, will not cumulatively result in a significant risk to the public.
7. Implementation of the mitigation measures described in the evidentiary record and contained in the Conditions of Certification, below, ensures that the project will not cause significant impacts to public health and safety as the result of the handling, storage, or transportation of hazardous materials.
8. With implementation of the Conditions of Certification, below, Victorville 2 will comply with all applicable laws, ordinances, regulations, and standards related to hazardous materials management.

The Commission concludes, therefore, that the use of hazardous materials by the Victorville 2 will not result in any significant direct, indirect, or cumulative adverse public health and safety impacts.

CONDITIONS OF CERTIFICATION

HAZ-1 During commissioning and operations, the project owner shall not use any hazardous materials not listed in **Appendix B**, below, or in greater quantities than those identified by chemical name in **Appendix B**, unless approved in advance by the Compliance Project Manager (CPM).

Verification: The project owner shall provide to the CPM, in the Annual Compliance Report, a list of hazardous materials contained at the facility.

HAZ-2 The project owner shall provide a Business Plan and a Risk Management Plan (RMP) to the Hazardous Materials Division of the City of Victorville Fire Department and the CPM for review. After receiving comments from the Hazardous Materials Division of the Victorville Fire Department and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final Business Plan and RMP shall then be provided to the Hazardous Materials Division of the City of Victorville Fire Department for information and to the CPM for approval.

Verification: At least 60 days prior to receiving any hazardous material on the site for commissioning or operations, the project owner shall provide a copy of a final Business Plan to the CPM for approval. At least sixty (60) days prior to delivery of aqueous ammonia to the site, the project owner shall provide the final RMP to the CUPA for information and to the CPM for approval.

HAZ-3 The project owner shall develop and implement a Safety Management Plan for delivery of aqueous ammonia and other liquid hazardous materials by tanker truck. The plan shall include procedures, protective equipment requirements, training and a checklist. It shall also include a section describing all measures to be implemented to prevent mixing of incompatible hazardous materials including provisions to maintain lockout control by a power plant employee not involved in the delivery or transfer operation. This plan shall be applicable during construction, commissioning, and operation of the power plant.

Verification: At least sixty (60) days prior to the delivery of any liquid hazardous material via tanker truck to the facility, the project owner shall provide a Safety Management Plan as described above to the CPM for review and approval.

HAZ-4 The aqueous ammonia storage tank shall be designed to either the ASME Pressure Vessel Code and ANSI K61.6, or to API 620. In either case, the storage tank and the tanker truck transfer pad shall include a secondary containment basin capable of holding 125% of the storage volume or the storage volume plus the volume associated with 24

hours of rain assuming the 25-year storm. The secondary containment basis shall drain into a sump with a maximum surface area exposed to the atmosphere of four (4) square feet. The tank and transfer pad shall also be equipped with ammonia sensors. The final design drawings and specifications for the ammonia storage tank, secondary containment structure, and the number, location, and specifications of the ammonia sensors shall be submitted to the CPM for review and approval prior to commencement of construction of the storage tank and secondary containment structure.

Verification: At least sixty (60) days prior to delivery of aqueous ammonia to the facility, the project owner shall submit final design drawings and specifications for the ammonia storage tank, the secondary containment structure, and the number, location, and specifications of ammonia sensors to the CPM for review and approval.

HAZ-5 The project owner shall direct all vendors delivering aqueous ammonia to the site to use only tanker truck transport vehicles which meet or exceed the specifications of DOT Code MC-307.

Verification: At least sixty (60) days prior to receipt of aqueous ammonia on site, the project owner shall submit copies of the notification letter to supply vendors indicating the transport vehicle specifications to the CPM for review and approval.

HAZ-6 The project owner shall direct all vendors delivering any hazardous material to the site for use during commissioning and commercial operations to use only the route approved by the CPM. Trucks and tankers will travel on I-15 and exit onto National Trails Highway and take that to Air Expressway to Phantom East Street to Perimeter Road and then to the plant site. Until Perimeter Road is completed to the project site, the route to be used shall be I-15 to National Trails Highway to Air Expressway to Adelanto Road to Colusa Road to Helendale Road to the facility. If the route must be changed for any reason, the project owner shall obtain the review and approval of the CPM not later than ten (10) days before the next shipment of hazardous materials is due to arrive at the facility and shall notify the Victorville Fire Department at the same time a request for route change is submitted to the CPM.

Verification: At least sixty (60) days prior to receipt of any hazardous materials on site, the project owner shall submit copies of the required transportation route limitation direction to the CPM for review and approval. Any change to the route must be reviewed and approved by the CPM and must be made in writing not less than ten (10) days prior to the next shipment of hazardous materials to the facility.

HAZ-7 The project owner shall place an adequate number of isolation valves in the Heat transfer Fluid (HTF) pipe loops so as to be able to isolate a

solar panel loop in the event of a leak of fluid. These valves shall be actuated manually and remotely. The engineering design drawings showing the number, location, and type of isolation valves shall be provided to the CPM for review and approval prior to the commencement of the solar array construction.

Verification: At least sixty (60) days prior to the commencement of solar array construction, the project owner shall provide the design drawings as described above to the CPM for review and approval.

HAZ-8 At least thirty (30) days prior to commencing construction, a site-specific Construction Site Security Plan for the construction phase shall be prepared and made available to the CPM for review and approval. The Construction Security Plan shall include the following:

1. Perimeter security consisting of fencing enclosing the construction area;
2. Security guards;
3. Site access control consisting of a check-in procedure or tag system for construction personnel and visitors;
4. Written standard procedures for employees, contractors and vendors when encountering suspicious objects or packages on-site or off-site;
5. Protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and
6. Evacuation procedures.

Verification: At least thirty (30) days prior to commencing construction, the project owner shall notify the CPM that a site-specific Construction Security Plan is available for review and approval.

HAZ-9 The project owner shall prepare a site-specific Security Plan for the operational phase and shall be made available to the CPM for review and approval. The project owner shall implement site security measures addressing physical site security and hazardous materials storage. The level of security to be implemented shall not be less than that described as below (as per NERC 2002).

The Operation Security Plan shall include the following:

1. Permanent full perimeter fence or wall, at least eight feet high around the Power Block and Solar Field and extend below ground surface consistent with the Desert Tortoise exclusion fencing requirements specified in Condition of Certification **BIO-11**;

2. Main entrance security gate, either hand operable or motorized;
3. Evacuation procedures;
4. Protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;
5. Written standard procedures for employees, contractors and vendors when encountering suspicious objects or packages on-site or off-site;
6.
 - a. A statement (refer to sample, attachment "A") signed by the project owner certifying that background investigations have been conducted on all project personnel. Background investigations shall be restricted to ascertain the accuracy of employee identity and employment history, and shall be conducted in accordance with state and federal law regarding security and privacy;
 - b. A statement(s) (refer to sample, attachment "B") signed by the contractor or authorized representative(s) for any permanent contractors or other technical contractors (as determined by the CPM after consultation with the project owner) that are present at any time on the site to repair, maintain, investigate, or conduct any other technical duties involving critical components (as determined by the CPM after consultation with the project owner) certifying that background investigations have been conducted on contractor personnel that visit the project site.
7. Site access controls for employees, contractors, vendors, and visitors;
8. A statement(s) (refer to sample, attachment "C") signed by the owners or authorized representative of hazardous materials transport vendors certifying that they have prepared and implemented security plans in conformity with 49 CFR 172.880, and that they have conducted employee background investigations in accordance with 49 CFR Part 1572, subparts A and B;
9. Closed Circuit TV (CCTV) monitoring system, recordable, and viewable in the power plant control room and security station (if separate from the control room) capable of viewing, at a minimum, the main entrance gate and the ammonia storage tank; and
10. Additional measures to ensure adequate perimeter security consisting of either:

- a. Security guard present 24 hours per day, seven days per week,
OR
- b. Power plant personnel on-site 24 hours per day, seven days per week and **all** of the following:
 - 1) The CCTV monitoring system required in number 9 above shall include cameras that are able to pan, tilt, and zoom (PTZ), have low-light capability, are recordable, and are able to view 100% of the power block perimeter fence, the ammonia storage tank, the outside entrance to the control room, and the front gate from a monitor in the power plant control room; **AND**
 - 2) Power block perimeter breach detectors or on-site motion detectors.
 - 3) The entire perimeter fence around the solar array shall be viewable by the CCTV system or have perimeter breach detectors or on-site motion detectors.

The project owner shall fully implement the security plans and obtain CPM approval of any substantive modifications to the security plans. The CPM may authorize modifications to these measures, or may require additional measures, such as protective barriers for critical power plant components (e.g., transformers, gas lines, compressors, etc.) depending on circumstances unique to the facility or in response to industry-related standards, security concerns, or additional guidance provided by the U.S. Department of Homeland Security, the U.S. Department of Energy, or the North American Electrical Reliability Council, after consultation with appropriate law enforcement agencies and the Applicant.

Verification: At least 30 days prior to the initial receipt of hazardous materials on-site, the project owner shall notify the CPM that a site-specific Vulnerability Assessment and Operations Site Security Plan are available for review and approval. In the Annual Compliance Report, the project owner shall include a statement that all current project employee and appropriate contractor background investigations have been performed, and updated certification statements are appended to the Operations Security Plan. In the Annual Compliance Report, the project owner shall include a statement that the Operations Security Plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.

D. WORKER SAFETY AND FIRE PROTECTION

Industrial workers are exposed to potential health and safety hazards on a daily basis. This analysis reviews whether Applicant's proposed health and safety plans will be adequate to protect industrial workers and provide fire protection and emergency response in accordance with all applicable laws, ordinances, regulations, and standards.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Industrial environments are potentially dangerous during both construction and operation. Workers at the proposed project will be exposed to loud noises, moving equipment, trenches, and confined space entry and egress. Workers may sustain falls, trips, burns, lacerations, and other injuries. They may be exposed to falling equipment or structures, chemical spills, hazardous waste, fires, explosions, and electrical sparks or electrocution. It is important that Victorville 2 has well-defined policies and procedures, training, and hazard recognition and control to minimize these hazards and protect workers.

The evidence of record extensively details the type and content of various plans which will be developed to ensure the protection of worker health and safety, as well as compliance with applicable LORS. For example, the project owner will develop and implement a "Construction Safety and Health Program" and an "Operations and Maintenance Safety and Health Program," both of which must be reviewed by the appropriate agencies prior to project construction and operation. Separate Injury and Illness Prevention Programs, Personal Protective Equipment Programs, Emergency Action Plans, Fire Protection and Prevention Plans, and other general safety procedures will be prepared for both the construction and operation phases of the project. (Ex. 200, pp. 4.14-5 - 4.14-10; Ex. 23, pp. 6.18-9 - 6.18-23) Conditions of Certification **WORKER SAFETY-1** and **2** ensure that these measures will be developed and implemented.

Conditions **WORKER SAFETY-3** and **-4** provide for a Construction Safety Supervisor, reporting to the project owner and a Safety Monitor, reporting to the Chief Building Official, to monitor safety conditions during project construction.

During project construction and operation there is the potential for both small fires and major structural fires. Electrical sparks, combustion of fuel oil, natural gas, hydraulic fluid, mineral oil, insulating fluid at the power plant switchyard, flammable liquids, explosions, and over-heated equipment may cause small fires. Major structural fires in areas without automatic fire detection and suppression systems are unlikely to develop at power plants. Fires and explosions involving natural gas or other flammable gasses or liquids are rare. (Ex. 200, pp. 4.14-12)

The project will rely on both on-site fire protection systems and local fire protection services. The on-site fire protection system provides the first line of defense for small fires. In the event of a major fire, fire support services, including trained firefighters and equipment for a sustained response, will be provided by the Victorville Fire Department. The San Bernardino County Fire Department would be called upon if needed. (Ex. 23, pp. 6.18-22 - 6.18-23; Ex. 200, pp. 4.14-12)

During construction, portable fire extinguishers will be located throughout the site, and safety procedures and training will be implemented. Following construction, fire suppression elements in the proposed plant will include both fixed and portable fire extinguishing systems. The fire water will be supplied from the raw water storage tank and delivered via a diesel and electric pump system to ensure a continuous adequate water supply to the fire protection water-piping network, which includes fire hydrants throughout the site, a sprinkler system at each unit transformer, and a sprinkler system in the operations building. Smoke detectors, flame detectors, temperature detectors, appropriate class of service portable extinguishers and fire hydrants will be located throughout the facility as required by law. (Ex. 200, pp. 4.14-12 - 4.14-13)

A carbon dioxide (CO₂) fire protection system will be provided for the combustion turbine generators and accessory equipment. The system will have fire detection and gas sensors that will trigger alarms, turn off ventilation, close ventilation openings, and automatically activate the system. A fire involving the Heat transfer Fluid (HTF) in the solar field will extinguish itself after burning the limited volume of fuel leaked since the lines will be isolated and the remainder of the field is nonflammable. (Ex. 200, p. 4.14-13)

Conditions of Certification **WORKER SAFETY-1** and **-2** require submittal of final Fire Protection and Prevention Programs to Staff and to the Victorville Fire Department prior to construction and operation, respectively, to confirm the adequacy of the fire protection measures.

A state-wide survey was conducted by Staff to determine the frequency of emergency medical response (EMS) and fire-fighter response for natural gas-fired power plants in California. Incidents at power plants that require fire or EMS response were found to be infrequent and representing an insignificant impact on the local fire departments, except for rare instances where a rural fire department has mostly a volunteer fire-fighting staff. However, the potential for both work-related and non-work related heart attacks exists at power plants. Many of the responses in the survey were for cardiac emergencies involving non-work related incidents, including visitors. The need for prompt response is well documented in medical literature. The quickest medical intervention can only be achieved with the use of an on-site defibrillator. (Ex. 200, pp. 4.14-13 - 4.14-13) Condition of Certification **WORKER SAFETY-5** requires that a portable automatic cardiac defibrillator be located on site.

FINDINGS AND CONCLUSIONS

Based on the weight of the evidence of record, the Commission makes the following findings and conclusions:

1. Industrial workers are exposed to potential health and safety hazards on a daily basis.
2. To protect workers from job-related injuries and illnesses, the project owner will implement comprehensive Safety and Health Programs for both the construction and the operation phases of the project.
3. Conditions of Certification in this section, as well as in the **WASTE MANAGEMENT** and **AIR QUALITY** sections, adequately protect construction workers from particulate matter and fugitive dust.
4. Victorville 2 will include on-site fire protection and suppression systems for first line defense in the event of a fire.
5. The Victorville Fire Department will provide fire protection and emergency response services to the project.
6. Existing fire and emergency service resources are adequate to meet project needs.
7. Victorville 2 will not result in cumulative adverse impacts to the Victorville Fire Department's emergency response capabilities.
8. Implementation of the Conditions of Certification, below, and the mitigation measures described in the evidentiary record will ensure that the project conforms with all applicable laws, ordinances, regulations, and standards on industrial worker health and safety.

The Commission therefore concludes that implementation of the project owner's Safety and Health Programs and Fire Protection measures will reduce potential adverse impacts to the health and safety of industrial workers to levels of insignificance.

CONDITIONS OF CERTIFICATION

WORKER SAFETY-1 The project owner shall submit to the Compliance Project Manager (CPM) a copy of the Project Construction Safety and Health Program containing the following:

- A Construction Personal Protective Equipment Program;
- A Construction Exposure Monitoring Program;
- A Construction Injury and Illness Prevention Program;
- A Construction Emergency Action Plan; and
- A Construction Fire Prevention Plan.

The Personal Protective Equipment Program, the Exposure Monitoring Program, and the Injury and Illness Prevention Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable Safety Orders. The Construction Emergency Action Plan and the Fire Prevention Plan shall be submitted to the Victorville Fire Department for review and comment prior to submittal to the CPM for approval.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Safety and Health Program. The project owner shall provide a copy of a letter to the CPM from the Victorville Fire Department stating the Fire Department's comments on the Construction Fire Prevention Plan and Emergency Action Plan.

WORKER SAFETY-2 The project owner shall submit to the CPM a copy of the Project Operations and Maintenance Safety and Health Program containing the following:

- An Operation Injury and Illness Prevention Plan;
- An Emergency Action Plan;
- Hazardous Materials Management Program;
- Fire Prevention Program (8 Cal. Code Regs., § 3221); and
- Personal Protective Equipment Program (8 Cal. Code Regs., §§ 3401-3411).

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the CPM for review and approval concerning compliance of the program with all applicable Safety Orders. The Operation Fire Prevention Plan and the Emergency Action Plan shall also be submitted to the Victorville Fire Department for review and comment.

Verification: At least thirty (30) days prior to the start of first-fire or commissioning, the project owner shall submit to the CPM for approval a copy of

the Project Operations and Maintenance Safety and Health Program. The project owner shall provide a copy of a letter to the CPM from the Victorville Fire Department stating the Fire Department's comments on the Operations Fire Prevention Plan and Emergency Action Plan.

WORKER SAFETY-3 The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards, is capable of identifying workplace hazards relating to the construction activities, and has authority to take appropriate action to assure compliance and mitigate hazards. The CSS shall:

- Have over-all authority for coordination and implementation of all occupational safety and health practices, policies, and programs;
- Assure that the safety program for the project complies with Cal/OSHA & federal regulations related to power plant projects;
- Assure that all construction and commissioning workers and supervisors receive adequate safety training;
- Complete accident and safety-related incident investigations, emergency response reports for injuries, and inform the CPM of safety-related incidents; and
- Assure that all the plans identified in Worker Safety 1 and 2 are implemented.

Verification: At least thirty (30) days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the Construction Safety Supervisor (CSS). The contact information of any replacement (CSS) shall be submitted to the CPM within one business day.

The CSS shall submit in the Monthly Compliance Report a monthly safety inspection report to include:

- Record of all employees trained for that month (all records shall be kept on site for the duration of the project);
- Summary report of safety management actions and safety-related incidents that occurred during the month;
- Report of any continuing or unresolved situations and incidents that may pose danger to life or health; and
- Report of accidents and injuries that occurred during the month.

WORKER SAFETY-4 The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work

performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO, and will be responsible for verifying that the Construction Safety Supervisor, as required in Worker Safety 3, implements all appropriate Cal/OSHA and Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities.

Verification: At least thirty (30) days prior to the start of construction, the project owner shall provide proof of its agreement to fund the Safety Monitor services to the CPM for review and approval.

WORKER SAFETY-5 The project owner shall ensure that a portable automatic external defibrillator (AED) is located on site during construction and operations and shall implement a program to ensure that workers are properly trained in its use and that the equipment is properly maintained and functioning at all times. During construction and commissioning, the following persons shall be trained in its use and shall be on-site whenever the workers that they supervise are on-site: the Construction Project Manager or delegate, the Construction Safety Supervisor or delegate, and all shift foremen. During operations, all power plant employees shall be trained in its use. The training program shall be submitted to the CPM for review and approval.

Verification: At least thirty (30) days prior to the start of site mobilization the project owner shall submit to the CPM proof that a portable AED exists on site and a copy of the training and maintenance program for review and approval.

WORKER SAFETY-6 The project owner shall prepare and implement a worker Heat Stress Protection Plan and a Best Management Practices (BMPs) for the storage and application of herbicides used to control weeds beneath and around the solar array. These plans shall be submitted to the CPM for review and approval.

Verification: At least thirty (30) days prior to the start of site mobilization, the project owner shall submit to the CPM for review and approval a copy of the worker Heat Stress Protection Plan and Best Management Practices (BMPs) for the storage and application of herbicides.

VI. ENVIRONMENTAL ASSESSMENT

A. BIOLOGICAL RESOURCES

The Commission must consider the potential impacts of project-related activities on biological resources, including state and federally listed species, species of special concern, wetlands, and other topics of biological concern such as unique habitats. The review contained in the record describes the biological resources in the vicinity of the project site and linear facilities, assesses the potential for adverse impacts, and determines what measures are necessary to mitigate impacts and ensure compliance with applicable laws, ordinances, regulations, and standards.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Site and Vicinity Description

The proposed Victorville 2 project site is located approximately 100 miles northeast of the city of Los Angeles and approximately 45 miles northwest of the city of San Bernardino in the city of Victorville (“the city” or “city” hereafter), San Bernardino County, California. Portions of the transmission line route occur in the adjacent city of Hesperia. The project is located on the north edge of the Southern California Logistics Airport (SCLA), formerly George Air Force Base, approximately 3.5 miles east of U.S. Highway 395 and approximately 0.5 mile west of the Mojave River. The transmission line route crosses Oro Grande Wash, the California Aqueduct, and Interstate 15. The proposed power plant would occupy approximately 338 acres in the Victor Valley, a portion of the southwestern Mojave Desert. The total land required to construct the proposed Victorville 2 facility is 388 acres, consisting of 338 acres that would be graded for the power plant and solar collectors, and two temporary construction staging areas of 20 and 30 acres each.

The linear facilities include 21 miles of transmission lines (4.3 miles of which occupy a new right-of-way), a natural gas interconnection to the existing Kern River-High Desert Power Project Lateral, a 3-mile potable water pipeline to extend along Perimeter Road, as well as a new 1.5-mile reclaimed process water pipeline and a new 1.25-mile sanitary wastewater line, both of which connect to the Victor Valley Wastewater Reclamation Authority (VWVRA) wastewater treatment plant. Process wastewater would be treated using a zero liquid discharge system resulting in a salt cake that would be disposed in a landfill. Access to the project would be via Adelanto Road, Colusa Road, and Helendale Road. Portions of those three roads would be paved as part of the project. (Ex. 200, p. 4.2-6.)

2. Native Plants and Wildlife

The Victorville 2 site is primarily undisturbed, natural land, and is surrounded by undisturbed open space with the exception of a few rural home sites and dirt roads. Vegetation on the site and in the immediate project area consists primarily of Mojave creosote bush scrub. In the project area, the following plant species are dominant: white bursage, creosote bush, and cheeseweed. Other associated species include freckled milk-vetch, Nevada ephedra, winter fat, pencil cholla, sandpaper plant, and Joshua tree. Additional plant communities and habitats within the project footprint include desert saltbush scrub, rabbitbrush scrub, Mojavean juniper woodland and scrub, developed/disturbed land, non-native grassland, and open sandy riverbed. Other vegetation types within a 1-mile radius of the proposed power plant site and 1,000 feet of linear facilities include agricultural land, Mojave riparian forest, open cottonwood-willow woodland, southern willow scrub, Mojave wash scrub, and cottonwood forest associated with the Mojave River located approximately 0.5 miles east of the power plant site and parallel to transmission line Segment 1. (Ex. 200, p. 4.2-7.)

Some of the common California desert plants present within the project area are protected under the California Desert Native Plants Act and county and city codes are. These include, but are not limited to, Joshua trees and cacti. Creosote bush rings above a 10-foot diameter are also protected. (Ex. 200, p. 4.2-10.)

A creosote bush ring is formed when the main stem of the creosote bush splits into segments, which then begin to branch. The center of the plant dies and decomposes, leaving bare ground surrounded by a ring of what appears to be individual shrubs. However, creosote rings are in fact one cloned individual, and large ones can be quite old, with the largest known specimen approaching 11,700 years. Creosote bush grows throughout the project area, and aerial photography in the record shows that several creosote rings greater than 10 feet in diameter are present on the Victorville 2 project site. (Ex. 200, p. 4.2-11.)

The Victorville 2 site's vegetation provides suitable habitat for several regionally common wildlife species such as side-blotched lizard, desert night lizard, longnose leopard lizard, Great Basin whiptail, coachwhip, Mojave rattlesnake, verdin, black-throated sparrow, horned lark, cactus wren, common raven, black-tailed jackrabbit, white-tailed antelope squirrel, coyote, and desert kit fox. (Ex. 200, p. 4.2-7.)

The closest riparian habitat occurs approximately 0.5 miles away within the Mojave River, which exhibits surface flow to the east of the proposed power plant site. This riparian habitat provides potential nest sites for raptors. In addition, the Mojave River is a well-documented wildlife movement corridor, particularly for migratory birds. The record contains evidence of direct observations of the following species associated with the Mojave River: bald eagle (state-listed Endangered), Swainson's hawk (state-listed Threatened), turkey vulture, hermit warbler, and Wilson's warbler. (Ex. 200, p. 4.2-8.)

3. Special Status Species

Biological Resources Table 1 lists special-status species that are known to occur or could potentially occur in the project area and vicinity.

Biological Resources Table 1
Special-Status Species Known or Potentially Occurring
In the Victorville 2 Area

Plants	Scientific Name	Status
small-flowered androstephium	<i>Androstephium breviflorum</i>	__/__/2.3
Palmer's mariposa lily	<i>Calochortus palmeri</i> var. <i>palmeri</i>	__/__/1B.2
Plummer's mariposa lily	<i>Calochortus plummerae</i>	__/__/1B.2
Booth's evening-primrose	<i>Camissonia boothii</i> ssp. <i>boothii</i>	__/__/2.3
San Bernardino Mountains owl's-clover	<i>Castilleja lasiorhyncha</i>	__/__/1B.2
Mojave tarplant	<i>Deinandra mohavensis</i>	__/SE/1B.3
sagebrush loeflingia	<i>Loeflingia squarrosa</i> var. <i>artemisiarum</i>	__/__/2.2
Parish's desert-thorn	<i>Lycium parishii</i>	__/__/2.3
Mojave monkeyflower	<i>Mimulus mohavensis</i>	__/__/1B.2
short-joint beavertail	<i>Opuntia basilaris</i> var. <i>brachyclada</i>	__/__/1B.2
Mojave fish-hook cactus	<i>Sclerocactus polyancistrus</i>	__/__/4.2
southern skullcap	<i>Scutellaria bolanderi</i> ssp. <i>austromontana</i>	__/__/1B.2
San Bernardino aster	<i>Symphotrichum defoliatum</i>	__/__/1B.2
Gastropods		
Victorville shoulderband (snail)	<i>Helminthoglypta mohaveana</i>	__/__/
westfork shoulderband (snail)	<i>Helminthoglypta taylori</i>	__/__/
Insects		
Andrew's marble butterfly	<i>Euchloe hyantis andrewsi</i>	__/__/
San Emigdio blue butterfly	<i>Plebulina emigdionis</i>	__/__/
Reptiles		
southwestern pond turtle	<i>Actinemys marmorata pallida</i>	__/SC
desert tortoise	<i>Gopherus agassizii</i>	FT/ST
coast (San Diego) horned lizard	<i>Phrynosoma coronatum</i> (<i>blainvillii</i> population)	__/SC
Chuckwalla	<i>Sauromalus ater</i>	__/__/
Amphibians		
arroyo toad	<i>Bufo californicus</i>	FE/SC
California red-legged frog	<i>Rana aurora draytonii</i>	FT/SC
mountain yellow-legged frog	<i>Rana muscosa</i>	FE/SC
Birds		
tricolored blackbird	<i>Aegelaius tricolor</i>	__/SC
Cooper's hawk	<i>Accipiter cooperi</i>	__/SC
long-eared owl	<i>Asio otus</i>	__/SC

burrowing owl	<i>Athene cunicularia</i>	BCC/SC
Swainson's hawk	<i>Buteo swainsoni</i>	__/ST
Costa's hummingbird	<i>Calypte costae</i>	__/_
Lawrence's goldfinch	<i>Carduelis lawrencei</i>	__/_
Vaux's swift	<i>Chaetura vaux</i>	__/SC
northern harrier	<i>Circus cyaneus</i>	__/SC
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FC/SE
hermit warbler	<i>Dendroica occidentalis</i>	FC/SE
yellow warbler	<i>Dendroica petechia brewsteri</i>	__/SC
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE/SE
prairie falcon	<i>Falco mexicanus</i>	__/SC
bald eagle	<i>Haliaeetus leucocephalus</i>	FD/SE
yellow-breasted chat	<i>Icteria virens</i>	__/SC
loggerhead shrike	<i>Lanius ludovicianus</i>	__/SC
Osprey	<i>Pandion haliaetus</i>	__/SC
Nuttall's woodpecker	<i>Picoides nuttallii</i>	__/_
summer tanager	<i>Piranga rubra</i>	__/SC
white-faced ibis	<i>Plegadis chihi</i>	__/SC
rufous hummingbird	<i>Selasphorus rufus</i>	__/_
Brewer's sparrow	<i>Spizella breweri</i>	__/_
chipping sparrow	<i>Spizella passerine</i>	__/_
Le Conte's thrasher	<i>Toxostoma lecontei</i>	__/SC
California thrasher	<i>Toxostoma redivivum</i>	__/_
least Bell's vireo	<i>Vireo bellii pusillus</i>	FE/SE
gray vireo	<i>Vireo vicinior</i>	__/SC
Mammals		
pallid San Diego pocket mouse	<i>Chaetodipus fallax pallidus</i>	__/SC
San Bernardino flying squirrel	<i>Glaucomys sabrinus californicus</i>	__/SC
silver-haired bat	<i>Lasiorycteris noctivagans</i>	__/SC
hoary bat	<i>Lasiurus cinereus</i>	__/SC
Mohave River vole	<i>Microtus californicus mohavensis</i>	__/SC
Mohave ground squirrel	<i>Spermophilus mohavensis</i>	__/ST
American badger	<i>Taxidea taxus</i>	__/SC

***Status Legend:** Federal/State/California Native Plant Society (CNPS) List, CNPS list is for plants only:

FE = Federally listed Endangered; **FT** = Federally listed Threatened; **FC** = Candidate Species for Listing; **FD** = Delisted; **BCC** = U.S. Fish and Wildlife Service Bird of Conservation Concern; **SE** = State-listed Endangered; **ST** = State-listed Threatened; **SC** = Species of Concern; **List 1B** = Rare, threatened, or endangered in California and elsewhere; **List 2** = Rare, threatened, or endangered in California, more common elsewhere; **List 4** = Plants of limited distribution (watch list); CNPS threat rank extensions: .2 = Fairly endangered in California, .3 = Not very endangered in California; __ = Not listed in that category.

(Ex. 200, pp. 4.2-8 – 4.2-9)

4. Habitats

a. Critical Habitat

Critical habitat is a term defined by the federal Endangered Species Act that refers to areas designated by the U.S. Fish and Wildlife Service (USFWS) that are essential for the conservation of threatened or endangered species and may require special management and protection. The USFWS has designated critical habitat for a number of species in the project vicinity. Critical habitat for the southwestern willow flycatcher is located within approximately 150 feet of portions of the Segment 1 transmission line route. Critical habitat for the desert tortoise is located approximately three miles north of the power plant site. Critical habitat for the arroyo toad is located approximately 3.5 miles southeast of the end of Segment 3 of the transmission line route. The critical habitat closest to the project site for the least Bell's vireo is approximately 26 miles south. California red-legged frog critical habitat was designated approximately 60 miles west. With the exception of southwestern willow flycatcher, these critical habitat areas are located a sufficient distance from the project so as not to be impacted. (Ex. 200, p. 4.2-10.)

b. Aquatic and Riparian Habitat

Numerous ephemeral drainages and washes, which flow into the Mojave River, traverse the transmission line route. Riparian and freshwater marsh habitats are located in the Mojave River approximately 0.5 mile east of the project. (*Id.*)

5. Construction Impacts and Mitigation

a. Power Plant Site

The Victorville 2 site currently contains some structures, which would be demolished to clear the site for development of the proposed power plant. Mass site grading and vegetation clearing would commence at the staging areas and

the power block and proceed to the solar field. Two temporary construction staging areas would be located just south and west of the power plant site. These two areas would be cleared of vegetation and covered with gravel. A total of 50 acres of Mojave creosote bush scrub would be removed, and this direct impact is considered permanent due to the length of time required for vegetation to re-establish. The power plant would permanently disturb a total of approximately 338 acres: 285 acres of Mojave creosote bush scrub, 3 acres of non-native grassland, and 50 acres of already-developed/disturbed land. These plant communities provide habitat for common and special-status species and likely contain wildlife movement corridors. The evidence in the record shows that the impact to wildlife movement corridors is less than significant due to the availability of adjacent alternate routes.

To address general biological resource impacts and habitat loss, the applicant proposed mitigation measures including worker environmental awareness training, construction monitoring of sensitive habitats, and avoidance of sensitive habitats. We agree with the applicant's proposed mitigation measures and incorporate them into conditions of certification to address general impacts to biological resources.

Water quality in the Mojave River could be impacted by discharge of toxic materials released during construction, or migration of any existing toxic materials present in the subsurface soils and groundwater into stormwater runoff from the project site. During and after construction, drainage and sedimentation control measures would be implemented to limit the discharge of potentially contaminated sediment from the site. The **SOIL AND WATER RESOURCES** section provides a more detailed discussion of potential soil, water quality, and aquifer recharge issues in relation to the Mojave River and its Conditions of Certification will ensure the avoidance or minimization of impacts.

Joshua trees and cacti are sparsely distributed throughout the power plant site and it is estimated that several hundred of these plants would be directly impacted by the project. Aerial photography in the record indicates there are several creosote rings of a significant diameter on the project site. Impacts to these protected desert native plants are significant, and the Applicant has proposed to mitigate through plant salvage, which involves relocating plants offsite to agency-approved locations, donating plants to local adoption programs, and/or transplanting plants onsite for landscaping/restoration purposes. The Applicant is working with the Victorville Community Services Department Parks Division to address compliance with LORS related to desert plants and intends to include measures in the BRMIMP and implement the Condition of Certification below. The City of Victorville will require an inspection of Joshua trees to determine trees that are suitable for transplantation. The Applicant proposes to relocate Joshua trees along the facility access road and near the administration building, elsewhere on the project site perimeter, and to other city-owned property. After exhausting those options, the Applicant would make Joshua trees available for public adoption pursuant to procedures established by the City. (Ex. 200, p. 4.2-14.)

Relocation is unlikely to be an option for creosote rings due to their size and root structure. CDFG believes that adequate habitat compensation for special-status wildlife is likely to mitigate impacts to creosote rings and other desert native plants. We therefore find that the project's required habitat compensation (see Condition of Certification **BIO-11** below) would mitigate this impact. In addition, Condition of Certification **BIO-17**, which we adopt in this Decision, requires a desert native plant protection, compensation, or salvage plan to reduce this impact to a less than significant level.

Special-Status Plants

Four special-status plant species have potential to occur at the power plant site: small-flowered *androstephium*, Booth's evening-primrose, sagebrush *loeflingia*,

and Mojave monkeyflower. As mitigation for the potentially significant impact to these species caused by site activities, the Applicant proposed conducting a pre-construction survey for rare plants, avoiding construction in washes and drainages, and notifying CDFG ten days prior to ground disturbance regarding salvage of any rare plants located. We adopt Condition of Certification **BIO-16**, which requires the Applicant to conduct a rare plant survey in the Spring of 2008 to assess rare plant impacts and determine further mitigation measures if rare plants are present. If necessary, the details of a rare plant mitigation plan would be included in the project's BRMIMP which is required as part of Condition **BIO-6**.

Special-Status Wildlife

Mojave creosote bush scrub at the power plant site provides suitable habitat for nesting/migratory birds, desert tortoise, Mohave ground squirrel, and burrowing owl. Power plant construction could result in direct and cumulative impacts to these species due to habitat loss or injury/fatality of individuals because their presence on or immediately adjacent to the site was confirmed by separate field observations. (Ex. 200, p. 4.2-15; Ex. 9, pp. 6.4-22 – 6.4-25.)

The Applicant observed several special-status migratory bird species (Costa's hummingbird, Le Conte's thrasher, bald eagle, loggerhead shrike, Swainson's hawk) foraging in the project area that could experience direct impacts due to loss of foraging habitat. In addition, non-native grassland and developed/disturbed areas provide nesting habitat for ground-nesting birds. (Ex. 9, p. 6.4-18.) The loss of active bird nests or young is regulated by the federal Migratory Bird Treaty Act and Fish and Game Code section 3503. These impacts are significant, and the Applicant has proposed mitigation that is discussed below and incorporated into our Conditions of Certification, to avoid and minimize impacts to nesting birds, special-status wildlife, and other biological resources on the power plant site.

The evidence shows that at least two desert tortoises are known residents of the site and others make use of the site and surrounding area. Furthermore, eight live desert tortoises were reported in the SCLA Specific Plan Amendment and Rail Service Project area, which overlaps with portions of the Victorville 2 site. (Ex. 9, p. 6.4-23.) The USFWS estimated that approximately ten individuals may occur in the project area. The Bureau of Land Management (BLM) estimated that public land adjacent to the project area contained as many as 20 desert tortoises per square mile in 1984. (*Id.*)

The Mohave ground squirrel is state listed as Threatened. The species has been positively detected adjacent to the project site and in the surrounding area. The Victorville population may be the only one remaining in the southernmost part of the Mohave ground squirrel range. Although direct observations of the species have not been reported on the Victorville 2 site, one animal was trapped twice in April 2007 on land adjacent to the site as part of the surveys conducted for the proposed intermodal rail project. Because this trapping occurred after surveys of the project site, the weight of the evidence supports a finding that the species is still present in the area and likely moves through, utilizes, and could inhabit the Victorville 2 site. (Ex. 9, p. 6.4-24; Ex. 200, p. 4.2-16.)

Burrowing owl is a California species of special concern and a USFWS bird of conservation concern. The Applicant observed four live individuals occupying burrows on staging areas and the power plant site as well as in Segments 1 and 2 of the transmission line. In addition, many burrows with sign (e.g., whitewash and scat) are located onsite and offsite. CDFG reported seven active burrows in the project area. Burrowing owls have also been observed using the site for foraging. (Ex. 9, p. 6.4-25; Ex. 200, p. 4.2-17.)

In the AFC, the Applicant proposed to mitigate direct impacts to nesting/migratory birds, desert tortoise, Mohave ground squirrel, and burrowing owl through a number of measures including off-site habitat compensation, and species-

specific impact avoidance and minimization measures such as an acceptable translocation plan, exclusion fencing, raven control plan and injury reporting. (Ex. 9, p. 6.4-33.) We incorporate most of the Applicant's proposed mitigation into Conditions of Certification **BIO-10** (Nesting or Migratory Bird Surveys and Impact Avoidance), **BIO-11** (Desert Tortoise, Mohave Ground Squirrel, Burrowing Owl, and Creosote Ring Compensation), **BIO-12** (Desert Tortoise Impact Avoidance and Minimization Measures), **BIO-13** (Mohave Ground Squirrel Impact Avoidance and Minimization Measures), **BIO 14** (Desert Tortoise and Mohave Ground Squirrel Compliance), and **BIO-15** (Burrowing Owl Impact Avoidance and Minimization Measures). This Decision includes all conditions that would have been identified in an Incidental Take Permit, were one to be issued by CDFG.

While some other projects impacting Mohave ground squirrel in the Victor Valley have compensated at a 1:1 mitigation ratio, CDFG recommends higher ratios when appropriate. Factors CDFG considers include the habitat quality of impacted land, core population considerations, habitat connectivity, quality and location of proposed mitigation land, cumulative effects, the existing knowledge base, and any newly-acquired information on the species. In the past, CDFG's basis for mitigating impacts to Mohave ground squirrel resulted from the fact that the species had not been reported in the Victor Valley for decades. In addition, there was a tendency for past projects to have been proposed adjacent to existing development or on disturbed sites. In contrast, the Victorville 2 site is relatively undisturbed and not immediately adjacent to extensive, existing development. Moreover, recent surveys tied to the increasing development in the area have yielded significant additional information indicating that the species is in fact present; this coupled with the federal listing petition prompted CDFG to re-evaluate Mohave ground squirrel mitigation for projects in this part of its range and propose a higher ratio.

We find the Staff-recommended 3:1 mitigation ratio for desert tortoise, Mohave ground squirrel, burrowing owl, and creosote rings is appropriate here for several

reasons. Compared to other projects in the Victor Valley, the proposed project site has relatively low habitat disturbance, trash, and OHV use, and a higher diversity of desert animal species. The site is near the Mojave River and adjacent to other relatively undisturbed desert habitat. Areas south of the project have been slated for development without providing buffers or corridors for species to travel to undeveloped areas to the north of the project. The Victorville 2 footprint is larger and not currently surrounded by development and disturbance like other projects in the area. The Applicant's translocation plan includes a graphic with significant projected future development in most of the surrounding area, which raises a cumulative impact concern related to habitat loss. The project site would be fenced and thus completely lost as habitat to ground-dwelling species. Moreover, the ratio is consistent with requirements imposed by the Energy Commission for other projects in the Mojave Desert. In fact, other energy projects on non-federal lands licensed by the Energy Commission have been required to mitigate at even higher ratios: up to 4:1 for the High Desert Power Plant 32-mile long pipeline, and 5:1 for LUZ SEGS Units IX and X. The proposed 3:1 mitigation ratio would also help address cumulative impacts from habitat loss to both general biological resources as well as Mohave ground squirrel, which has a more restricted range and lacks an effective translocation method as compared to the desert tortoise. Finally, we note that CDFG's earlier consultations with the Applicant -- prior to establishing Mohave ground squirrel presence -- informed the Applicant of a 1.5:1 ratio for desert tortoise alone. All of these factors indicate that compensation at a ratio of 3:1 is required to mitigate the project's impacts to multiple sensitive biological resources.

The Applicant has agreed to mitigate at the 3:1 ratio, but contends that the area's Mohave ground squirrel and desert tortoise populations may not be substantial and points to other nearby projects that have been subject to lower habitat compensation requirements in the past. However, the small population size is part of CDFG's rationale for the higher mitigation; the project's large acreage impact combined with small population size means that in this area the habitat

destruction caused by the project would likely lead to the population's further decline. With the passage of time, there has been increased encroachment of development upon desert habitat, and fragmentation of the remaining space, resulting in less total habitat available for special-status and other native species. All these factors lend further support to a compensation ratio of 3:1.

Tortoise Translocation and Acquisition of Compensation Land

The translocation plan (Ex. 9) describes three potential locations for desert tortoise translocation and special-status species habitat compensation. Privately owned parcels in (1) neighboring Kern County, (2) northwest of Edwards AFB, and (3) south of Highway 58, are being considered by the Applicant as potential mitigation land. (Ex. 200, p. 4.2-23.) This land is targeted for acquisition by the Desert Tortoise Preserve Committee (DTPC) but not yet in DTPC's possession; therefore, no management plan, which would be required prior to purchase, is currently available. In this area, the land consists of a "checker board" of privately and publicly owned (BLM) parcels. The adjacent BLM parcels are classified as "limited use," and BLM plans to retain this land. The DTPC-targeted parcels under consideration are approximately 640 acres each, totaling approximately 4,400 acres. (*Id.*) Therefore, it appears that sufficient habitat compensation acreage would be available in Kern County to mitigate the project's impacts.

Two alternative mitigation land locations were proposed by the Applicant. (Ex. 200, p. 4.2-24.) Private lands adjacent to the project site were proposed for desert tortoise translocation, but encroaching development makes it less valuable as habitat. This area overlaps with the development identified as "future industrial build out" and "rail service" in Figure 7 of the translocation plan. (Ex. 86.) The Applicant also proposed a mitigation area on BLM land located east of the project and Mojave River. However, this BLM land is outside the known range of Mohave ground squirrel. In addition, this area is considered a high

recreational use area, and public lands are not usually accepted by CDFG as habitat compensation. (Ex. 200, p. 4.2-24.)

Dr. Philip Leitner, Mohave ground squirrel expert, testified that the Kern County land may be appropriate for desert tortoise translocation but that there is no evidence that Mohave ground squirrel is in the area of those parcels. Dr. Leitner recommends, and Staff agrees, that the Applicant should investigate land purchases in either of two previously unconsidered locations, which are known to support both desert tortoise and Mohave ground squirrel, and likely burrowing owl and creosote rings: (1) near Highway 395, north of Kramer Junction or, (2) in the eastern expansion area of the Desert Tortoise Natural Area (DTNA) located northeast of California City and west of Highway 395. Staff investigated the availability of these lands and determined that there is sufficient private land acreage available in both areas. (Ex. 200, p. 4.2-24.) The area around the DTNA is mostly privately owned, especially to the east, and it is designated as an acquisition target for conservation purposes by the Desert Tortoise Preserve Committee (DTPC), who manages the DTNA. The area north of Kramer Junction is a checkerboard of private and BLM parcels, with at least eight or nine sections designated as private ownership on a BLM map. We find that these two locations would be most likely to satisfy the project's habitat compensation needs.

We adopt Condition of Certification **BIO-11** to ensure that appropriate habitat compensation is implemented. The verification measures contained therein require the applicant to provide the CPM with evidence of appropriate habitat compensation purchases having been completed in accord with the recommendations of technical advisory groups approved by the CDFG and the USFWS. (Ex. 200, p. 4.2-47)

We also adopt Condition of Certification **BIO-12** which sets forth the requirements for translocation of desert tortoises. All details of the translocation plan are to be set forth in the BRMIMP. We find that this condition of certification contains adequate detail to ensure that handling and translocation of desert

tortoises is done so as to minimize impacts and maximize survival of these animals. Accounts of recent efforts to translocate desert tortoises displaced by expansion of Ft. Irwin, north of the project site, have indicated that a great deal of experience and knowledge was gained by biologists involved with the translocation. We encourage biologists involved with translocation on the Victorville 2 project to familiarize themselves with the Ft. Irwin activities and take those experiences into account in planning the Victorville 2 translocation.

b. Transmission Line Impacts

The project's transmission line is divided into three segments. Segment 1 extends south from the power plant site for approximately 4.3 miles and connects to the existing High Desert Power Plant and the Southern California Edison (SCE) regional grid. Mojave creosote bush scrub and desert saltbush scrub would be directly impacted in this segment. These plant species grow in the same habitats that are suitable for the special-status species discussed above for the power plant site, direct impacts are considered significant, and we therefore adopt the same Conditions of Certification to mitigate these impacts to a less than significant level. (Ex. 200, p. 4.2-25.)

The Segment 1 route contains 40 ephemeral washes, which the Applicant proposes to avoid in the current project design by spanning transmission conductors over the washes. We adopt Condition of Certification **BIO-18**, Streambed Impact Avoidance and Minimization Measures, to ensure that a level of protection comparable to that afforded by a Streambed Alteration Agreement would be implemented. (Ex. 200, p. 4.2-26.)

Also in Segment 1, the Applicant estimates that approximately 100 square feet of desert saltbush scrub that could potentially support San Emigdio blue butterfly, which is not state or federally listed but considered sensitive by CDFG, would be permanently impacted in the construction of two transmission towers. This impact is considered insignificant due to the small area of potential impact, avoidance of

suitable wash habitat, and the habitat restoration that has been proposed by the Applicant. Similarly, Mojave River vole could also be directly impacted by activities in this segment. However, this potential impact is mitigated to a less than significant level by the Applicant's proposed avoidance of washes and biological monitoring during construction.

Segment 2 is 5.7 miles in length, located within an existing right-of-way (ROW), ends at SCE's Victor Substation, and involves the installation of three new transmission towers. Mojave creosote bush scrub habitat would be permanently and temporarily impacted. Ten ephemeral washes would be avoided during installation. Potentially significant impacts could occur, and Conditions of Certification **BIO 1-17**, which we have adopted, will ensure adequate mitigation of these impacts.

Portions of Segments 1 and 2 are located within 150 feet of designated critical habitat for the southwestern willow flycatcher. Impacts to critical habitat would be considered significant; therefore, the Applicant has proposed timing construction of the reclaimed water pipeline and transmission line work near the Mojave River's riparian vegetation outside this species' nesting season (February 15 – August 31) as well as biological monitoring, which has been incorporated into the Conditions of Certification.

Segment 3 is also located in an existing ROW and extends 11 miles south to the SCE Lugo Substation. Mojave creosote bush scrub habitat would be permanently and temporarily impacted, and the species impacts and proposed mitigation are similar to the power plant site. Five ephemeral washes would be avoided during installation. In addition, Mojave juniper woodland and scrub would be permanently and temporarily impacted. This plant community provides potentially suitable habitat for a state species of concern, the San Diego coast horned lizard (Ex. 9, p. 6.4-39). However, the Applicant has proposed avoidance of suitable wash habitat, biological monitoring during construction activities, and habitat

restoration to mitigate potential direct impacts to the species which we adopt as part of the Conditions of Certification of this Decision. (*Id.*)

c. Pipeline Impacts

The reclaimed water supply and the sanitary wastewater line would connect to the nearby VVWRA wastewater treatment plant, and installation would result in the permanent loss of Mojave creosote bush scrub. The potable water line along Perimeter Road would disturb approximately 30 acres of additional habitat within transmission line segment 1. Impacts would be similar to those at the power plant site, and potential additional impacts to the southwestern pond turtle could occur in the VVWRA wastewater treatment facility ponds, and to riparian nesting birds within the Mojave River. The Applicant proposes to avoid potential impacts to southwestern pond turtle by avoiding impacts to the treatment ponds and conducting biological monitoring during construction activities. (Ex. 200, p. 4.2-27)

No additional impacts to biological resources beyond those discussed for the power plant site would result from the natural gas and potable water supply lines because they would connect with existing lines in graded roadways adjacent to the power plant site.

d. Construction Lighting

An increase in light and glare at the site is expected to occur during construction and operation of the project. During periods when nighttime construction would take place, illumination that meets state and federal worker safety guidelines would be required. Because the project is located just north of the SCLA, an existing source of light, and the project description includes light minimization measures (see Conditions of Certification in the **VISUAL RESOURCES** section), we conclude there would be no significant unmitigated impacts to sensitive species from the lighting associated with construction of the project.

e. Construction Noise

The site's ambient noise comes from local street traffic, occasional aircraft from SCLA (approximately one mile away), off-highway vehicles, and natural sounds. Construction activities would result in elevated noise levels at the project site. Excessive noise levels can cause birds to abandon nests and associated vibration can result in the collapse of burrows. Loud construction noise and vibration, particularly from pile driving, could affect burrowing owls. (Ex. 9, p. 6.4-45.) The Applicant has proposed mitigation, such as timing construction outside the breeding season of sensitive species and conducting biological monitoring, to minimize the direct impact of noise to sensitive biological resources surrounding the site such as those associated with riparian areas, *i.e.*, reclaimed water pipeline in VVWRA treatment facility. We adopt Condition of Certification **BIO-15** to mitigate potential noise-related impacts to burrowing owl. With the species-specific mitigation discussed above, we conclude there would be no significant impacts to biological resources from construction noise.

6. Operation Impacts and Mitigation

Potential operation impacts include impacts to birds due to collision with and/or electrocution by the transmission lines, disturbance to wildlife due to increased noise and lighting, desert tortoise impacts from increased road traffic, and impacts to vegetation and rare plants from the power plant's air emissions.

a. Bird Collisions and Electrocutions

Birds are known to collide with transmission lines and other elevated structures, causing injury and fatality. However, the project lacks tall, guy-wired antennas typically associated with bird collisions, and the project area rarely has poor visibility weather conditions like coastal fog. The project is also located in an area not known for large flocks of migratory waterfowl. The Applicant has also proposed a "raptor-friendly" construction design for the transmission line with

conductor wire spacing greater than the wingspans of large birds to help prevent electrocution. We adopt Condition of Certification **BIO-8**, to ensure that the transmission lines would not pose a significant collision or electrocution threat to bird populations.

b. Noise and Lighting

Impacts from noise and lighting due to operation of the project are not expected to be significant. Although plant operations would create additional noise, the type of noise would be generally consistent with the site's ambient noise from local street traffic, occasional aircraft from the SCLA, off-highway vehicles, and natural sounds, and it is likely that resident animals in the area would habituate to routine noise. Similarly, impacts to biological resources due to lighting are not expected to be significant. Non-glare fixtures and restriction of lighting only to areas in which it is needed would minimize impacts of lighting to biological resources. (Ex. 200, p. 4.2-28 – 4.2-29.) Noise and light impacts to resident and migratory wildlife would be mitigated by Conditions of Certification in the **NOISE and VIBRATION** and **VISUAL RESOURCES** sections as well as Conditions **BIO-8** through **BIO-10** which we adopt in this Decision. Condition **BIO-8** requires the Applicant to implement impact avoidance features. Condition **BIO-9** outlines mitigation measures to avoid harassment or harm of sensitive wildlife. Condition **BIO-10** requires the Applicant to conduct nesting or migratory bird surveys and schedule work outside the nesting season or establish buffers to avoid impacts.

c. Traffic

The Applicant has stated that portions of Adelanto Road and Colusa Road would be paved just prior to construction initiation, and the access plan would result in increased traffic along these roads. Paving part of Helendale Road may also be included as part of the project to facilitate access to the solar array and mitigate air quality impacts. Paving roads generally facilitates increased driving speeds,

which may not allow enough time for vehicles to stop or avoid collisions with slow-moving wildlife such as the state and federally listed desert tortoise.

The applicant, staff, and biological resource agencies agreed that a temporary rather than permanent fence would be erected at the beginning of construction in the existing, disturbed roadway, biological monitors would be present to avoid impacts that could result from the increased construction traffic, and a 25 MPH speed limit would be established. Following construction, the temporary fence would be removed, and traffic during operations is not expected to substantially increase above the existing thresholds established by the city of Victorville. (Ex. 200, p. 4.2-29)

d. Cooling Tower Drift

Cooling tower drift is the fine mist of water droplets that escape the cooling tower's mist eliminators and are emitted into the atmosphere. Cooling towers concentrate the particulates during the cooling process and produce a salt mist. However, evidence in the record shows that such emissions from the project's cooling towers would be far below the EPA secondary PM₁₀ ambient air quality standard of 150 µg/m³. (Ex. 73; Ex. 200, p. 4.2-30.) No impacts to sensitive biological resources are expected due to cooling tower drift, and no mitigation is necessary.

7. Cumulative impacts

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (Cal. Code Regs., tit. 14, § 15130.)

The High Desert Power Plant currently operates within the vicinity of the proposed power plant. The cities of Victorville and Adelanto are rapidly

developing. Several known projects in the area would convert undeveloped lands: a 1,600-acre intermodal railway facility located at SCLA, extensive housing to the east and south, expansion/relocation of Highway 395 to the east, public land conversion to private for development purposes to the north, and retrofitting/expansion of the TXI Cement Plant east of the Mojave River. (Ex. 200, p. 4.2-30.)

Habitat loss, degradation, and fragmentation are significant cumulative impact issues that were identified in BLM's West Mojave Plan. (Ex. 9, p. 6.4-46.) Victorville 2 would further decrease the undeveloped acreage available in the area that is available for special-status species such as the desert tortoise, Mohave ground squirrel, and burrowing owl. Loss of Mohave ground squirrel habitat is of particular concern with respect to cumulative impacts due to its relatively small range. Even though loss of acreage would be mitigated, habitat fragmentation concerns remain. These concerns could constitute an incremental effect that is cumulatively considerable, depending on the location, quality, and quantity of compensation lands acquired by the Applicant in order to comply with federal and state Endangered Species Act requirements. Because of the rapidly increasing development in the project region, addressing cumulative impacts is particularly significant for this project.

If suitable land of sufficient acreage is available and acquired as habitat compensation, cumulative impacts could likely be reduced to a level that is less than significant. We find that the 3:1 habitat compensation ratio identified for direct impacts would provide sufficient land to ensure that cumulative biological impacts are adequately addressed. There is sufficient acreage in the two locations recommended by Staff.

There are no noteworthy public benefits to biological resources from construction of Victorville 2. Although the project's emissions would be lower than a standard gas-fired power plant, this hybrid solar project would require much more land in comparison, and would have considerable impacts to relatively undisturbed,

contiguous desert habitat, which supports native plant and state and federally protected wildlife species. We do not find the project to be a public benefit with respect to biological resources.

8. Facility Closure

In the future, Victorville 2 would experience either a planned closure or be unexpectedly (either temporarily or permanently) closed. When facility closure occurs, it must be done in such a way as to protect the environment and public health and safety. With respect to biological resources, derelict power plant facilities can present hazards (e.g., collision or contamination) to wildlife, which may try to inhabit the land following the conclusion of the facility's operational life. In addition, the disturbed site would hinder re-establishment of the native flora and fauna without habitat restoration to foster native vegetation growth. Closure-related mitigation measures are particularly important in the desert due to the considerable time required to re-establish native habitats as observed at other desert project sites. An important component to such mitigation is a realistic cost estimate to complete closure-related activities and a solid funding mechanism to ensure the project owner's implementation. A legal or financial guarantee, such as a performance bond or "sinking" fund, would help minimize risk.

A closure plan would be prepared by the project owner prior to any planned closure. To address unanticipated facility closure, an "on-site contingency plan" would be developed by the project owner, and approved by the Energy Commission Compliance Project Manager (CPM). Facility closure requirements are discussed in more detail in the **Compliance and Closure** section of this Decision. Facility closure mitigation measures would also be included in BRMIMP prepared by the project owner.

The facility closure plan should address habitat restoration measures to be implemented in the event of a planned or an unexpected permanent closure. Planned or unexpected permanent facility closure should address the removal of

the transmission conductors since birds are known to collide with transmission line ground wires.

Condition of Certification **BIO-7** contains measures that need to be implemented to ensure that impacts to biological resources are specifically addressed prior to the planned permanent or unexpected permanent closure of the project.

FINDINGS AND CONCLUSIONS

Based on the evidence of record, we find as follows:

1. The project site provides habitat for both common and special status animal and plant species.
2. The project has the potential to have significant impacts on the desert tortoise, Mohave ground squirrel, burrowing owl, Joshua tree, desert creosote ring and other common and special-status animal and plant species.
3. The habitat mitigation plan's 3:1 ratio, resulting in the acquisition and perpetual maintenance of at least 1,315.5 acres of off-site habitat, is adequate to compensate for the permanent loss of habitat for desert tortoise, Mohave ground squirrel, burrowing owl, and creosote ring, which will result from construction and operation of the project.
4. The desert tortoise translocation plan, with approval from the Compliance Project Manager in consultation with the California Department of Fish and Game and the United States Fish and Wildlife Service, will be adequate to reduce impacts to this species to below the level of significance.
5. The Mohave ground squirrel and burrowing owl impact avoidance and minimization plans will be adequate to reduce impacts to these species to below the level of significance.
6. The rare and native desert plant survey and impact avoidance and minimization plans will be adequate to reduce impacts to rare and native desert plants to below the level of significance.
7. The streambed impact avoidance and minimization plans will be adequate to reduce biological impacts to these features caused by construction and operation of the project to below the level of significance.
8. With noise abatement measures proposed, the project's construction and operational noise levels would not cause a significant adverse effect to wildlife.

9. The measures specified in the Conditions of Certification will adequately mitigate the potential direct, indirect, and cumulative adverse effects of the Victorville 2 project upon biological resources to below a level of significance.
10. With the implementation of the mitigation measures, the project will conform with all applicable laws, ordinances, regulations, and standards governing biological resources.

We therefore conclude that with implementation of the Conditions of Certification set forth below, construction and operation of Victorville 2 will not create any significant direct, indirect, or cumulative impacts to biological resources, and the project will conform with all applicable laws, ordinances, regulations, and standards relating to biological resources.

CONDITIONS OF CERTIFICATION

Designated Biologist Selection

BIO-1 The project owner shall assign a Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist, with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval in consultation with CDFG and USFWS.

The Designated Biologist must meet the following minimum qualifications:

- Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field; and
- Three years of experience in field biology or current certification of a nationally recognized biological society, such as The Ecological Society of America or The Wildlife Society; and
- At least one year of field experience with biological resources found in or near the project area.

In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM, in consultation with CDFG and USFWS, that the proposed Designated Biologist or alternate has the appropriate training and background to effectively implement the conditions of certification.

Verification: The project owner shall submit the specified information at least 90 days prior to the start of any site (or related facilities) mobilization. No site or related facility activities shall commence until an approved Designated Biologist is available to be on site.

If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least ten working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.

Designated Biologist Duties

BIO-2 The project owner shall ensure that the Designated Biologist performs the following during any site (or related facilities) mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by the approved Biological Monitor(s) but remains the contact for the project owner and CPM.

1. Advise the project owner's Construction and Operation Managers on the implementation of the biological resources conditions of certification;
2. Consult on the preparation of the Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to be submitted by the project owner;
3. Be available to supervise, conduct and coordinate mitigation, monitoring, and other biological resources compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources, such as wetlands and special-status species or their habitat;
4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
5. Inspect active construction areas where animals may have become trapped prior to construction commencing each day. At the end of the day, inspect for the installation of structures that prevent entrapment or allow escape during periods of construction inactivity. Periodically inspect areas with high vehicle activity (e.g., parking lots) for animals in harm's way;
6. Notify the project owner and the CPM of any non-compliance with any biological resources condition of certification;

7. Respond directly to inquiries of the CPM regarding biological resource issues;
8. Maintain written records of the tasks specified above and those included in the BRMIMP. Summaries of these records shall be submitted in the Monthly Compliance Report and the Annual Compliance Report;
9. Train the Biological Monitors as appropriate, and ensure their familiarity with the BRMIMP, Worker Environmental Awareness Program (WEAP) training, and all permits; and
10. Maintain the ability to be in regular, direct communication with the CDFG regional biologist and CDFG warden responsible for the project area.

Verification: The Designated Biologist shall submit in the Monthly Compliance Report to the CPM copies of all written reports and summaries that document biological resources activities. If actions may affect biological resources during operation a Designated Biologist shall be available for monitoring and reporting. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report unless their duties are ceased as approved by the CPM.

Biological Monitor Qualifications

BIO-3 The project owner's CPM-approved Designated Biologist shall submit the resume, at least three references, and contact information of the proposed Biological Monitors to the CPM for approval in consultation with CDFG and USFWS. The resume shall demonstrate, to the satisfaction of the CPM, the appropriate education and experience to accomplish the assigned biological resource tasks.

Biological Monitor(s) training by the Designated Biologist shall include familiarity with the conditions of certification, BRMIMP, WEAP, and all permits.

Verification: The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any site (or related facilities) mobilization. The Designated Biologist shall submit a written statement to the CPM confirming that individual Biological Monitor(s) have been trained including the date when training was completed. If additional biological monitors are needed during construction the specified information shall be submitted to the CPM for approval ten days prior to their first day of monitoring activities.

Designated Biologist and Biological Monitor Authority

BIO-4 The project owner's construction/operation manager shall act on the advice of the Designated Biologist and Biological Monitor(s) to ensure conformance with the biological resources conditions of certification.

If required by the Designated Biologist and Biological Monitor(s) the project owner's construction/operation manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist.

The Designated Biologist shall:

1. Require a halt to all activities in any area when determined that there would be an unauthorized adverse impact to biological resources if the activities continued;
2. Inform the project owner and the construction/operation manager when to resume activities; and
3. Notify the CPM if there is a halt of any activities and advise the CPM of any corrective actions that have been taken or will be instituted as a result of the work stoppage.

If the Designated Biologist is unavailable for direct consultation, the Biological Monitor shall act on behalf of the Designated Biologist.

Verification: The project owner shall ensure that the Designated Biologist or Biological Monitor notifies the CPM immediately (and no later than the morning following the incident, or Monday morning in the case of a weekend) of any non-compliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem.

Whenever corrective action is taken by the project owner, a determination of success or failure will be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner will be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

Worker Environmental Awareness Program (WEAP)

BIO-5 The project owner shall develop and implement a CPM-approved WEAP in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation, and closure are informed about sensitive biological resources associated with the project.

The WEAP must:

1. Be developed by or in consultation with the Designated Biologist and consist of an on-site or training center presentation in which supporting written material and electronic media is made available to all participants;
2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;
3. Present the reasons for protecting these resources;
4. Present the meaning of various temporary and permanent habitat protection measures;
5. Identify whom to contact if there are further comments and questions about the material discussed in the program; and
6. Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Verification: At least 60 days prior to the start of any site (or related facilities) mobilization, the project owner shall provide to the CPM two copies of the proposed draft WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.

The project owner shall provide in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least ten days prior to site and related facilities mobilization, submit two copies of the CPM-approved final WEAP.

Training acknowledgement forms signed during construction shall be kept on file by the project owner for at least six months after the start of commercial operation.

During project operation, signed statements for operational personnel shall be kept on file for six months following the termination of an individual's employment.

Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP)

BIO-6 The project owner shall develop a BRMIMP and submit two copies of the proposed BRMIMP to the CPM (for review and approval) and shall

implement the measures identified in the approved BRMIMP. The BRMIMP shall be prepared in consultation with the Designated Biologist and shall identify:

1. All biological resources mitigation, monitoring, and compliance measures proposed and agreed to by the project owner;
2. All biological resources conditions of certification identified as necessary to avoid or mitigate impacts;
3. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, such as those provided in the USFWS Biological Opinion;
4. All biological resources mitigation, monitoring and compliance measures required in other state agency terms and conditions, such as those provided in the USFWS Biological Opinion and RWQCB permit (if needed);
5. All sensitive biological resources to be impacted (e.g., burrowing owl, desert tortoise, Mohave ground squirrel, Joshua trees, and cacti), avoided (e.g., southwestern pond turtle, San Diego coast horned lizard, Mojave River vole, San Emigdio blue butterfly), or mitigated by project construction, operation, and closure;
6. All required mitigation measures for each sensitive biological resource;
7. A raven control plan;
8. A final desert tortoise translocation plan and written comments on the plan as proof that it is acceptable to CDFG and USFWS. The elements of the plan shall include, but are not limited to, survey methods for locating and removing animals from the project area, holding and transport protocol, monitoring of translocation tortoises through permanent identification of animals, disease testing and management strategy, and a contingency plan;
9. A copy of the Burrowing Owl Mitigation and Monitoring Plan submitted to CDFG;
10. A Rare Plant Survey Report and if rare plants are found, a rare plant mitigation plan;
11. A wetland mitigation plan for temporary and permanent impacts to state and federal jurisdictional waters. This component is only needed if project changes affecting jurisdictional waters occur after project licensing;

12. A detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities (e.g., restoration of desert saltbush scrub habitat for San Emigdio blue butterfly);
13. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
14. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities; include one set prior to any site or related facilities mobilization disturbance and one set subsequent to completion of project construction. Provide planned timing of aerial photography and a description of why times were chosen. Provide a final accounting of the before/after acreages and a determination of whether additional habitat compensation is necessary in the Construction Termination Report;
15. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
16. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
17. All performance standards and remedial measures to be implemented if performance standards are not met;
18. A discussion of biological resources-related facility closure measures including a description of funding mechanism(s);
19. Restoration and re-vegetation plan that addresses protection, compensation, or salvage methods for Joshua trees, cacti, and creosote rings;
20. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and
21. Copies of all biological resources-related permits obtained.

Verification: The project owner shall submit the BRMIMP to the CPM at least 60 days prior to start of any site (or related facilities) mobilization. The BRMIMP shall contain all of the required measures included in Conditions of Certification **BIO-6, BIO-8, BIO-9, BIO-10, BIO-12, BIO-13, BIO-15, BIO-17** and **BIO-18**. No ground disturbance may occur prior to the CPM's approval of the final BRMIMP.

The CPM, in consultation with other appropriate agencies, will determine the BRMIMP's acceptability within 45 days of receipt. If there are any permits that

have not yet been received when the BRMIMP is first submitted, these permits shall be submitted to the CPM within five days of their receipt, and the BRMIMP shall be revised or supplemented to reflect the permit condition within ten days of their receipt by the project owner. Ten days prior to site and related facilities mobilization the revised BRMIMP shall be resubmitted to the CPM.

The project owner shall notify the CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval.

Any changes to the approved BRMIMP must also be approved by the CPM in consultation with appropriate agencies to ensure no conflicts exist.

Implementation of BRMIMP measures (e.g., rare plant and burrowing owl survey results, construction activities that were monitored, species observed) will be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases, and which mitigation and monitoring items are still outstanding.

Closure Plan Measures

BIO-7 The project owner shall implement and incorporate into the facility closure plan measures that address the local biological resources related to facility closure. The facility closure plan shall address biological resources-related mitigation measures. The plan must include the following in a Biological Resources Element:

1. Removal of transmission conductors when they are no longer used and useful;
2. Removal of all above ground and subsurface power plant site facilities and related facilities;
3. Methods for restoring wildlife habitat and promoting the re-establishment of native plant and wildlife species;
4. Re-vegetation of the project site and other disturbed areas utilizing appropriate seed mixture;
5. Criteria that would trigger implementation of the plan (e.g., non-operational for one year or greater); and
6. A cost estimate to complete closure-related activities.

In addition, the project owner shall secure funding to ensure implementation of the plan and provide to the CPM written evidence of the dedicated funding mechanism(s) (e.g., performance bond or “sinking” fund to minimize risk). The applicant has indicated that the source of funds shall be the city of Victorville’s general fund (Victorville 2007d).

Verification: At least 12 months prior to commencement of planned closure activities, the project owner shall address all biological resources-related issues associated with facility closure, and provide final measures, in a Biological Resources Element. The draft planned permanent or unplanned closure measures shall be submitted to the CPM for comment by staff, CDFG, and USFWS. After revision, final measures shall comprise the Biological Resources Element, which shall include the items listed above as well as written evidence of the dedicated funding mechanism(s) for these measures. The final Biological Resources Element shall become part of the facility closure plan, which is submitted to the CPM within 90 days of the permanent closure or another period of time agreed to by the CPM.

In the event of an unplanned permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, or e-mail, within 24 hours and shall take all necessary steps to implement the on-site contingency plan (see **COMPLIANCE** Conditions of Certification).

Upon facility closure, the project owner shall implement measures in the Biological Resources Element and provide written status updates on all closure activities to the CPM at a frequency determined by the CPM.

Impact Avoidance Mitigation Features

BIO-8 Any time the project owner modifies or finalizes the project design they shall incorporate all feasible measures that avoid or minimize impacts to the local biological resources, including the following:

1. Design, install and maintain transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources;
2. Avoid impacts to jurisdictional waters;
3. Design, install, and maintain transmission lines and all electrical components in accordance with the Avian Power Line Interaction Committee’s (APLIC) Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006 to reduce the likelihood of electrocutions of large birds;
4. Design, install, and maintain transmission lines and all electrical components in accordance with the APLIC Mitigating Bird

Collisions with power lines: The State of the Art in 1994 to reduce the likelihood of bird collisions;

5. Eliminate any California Exotic Pest Plants of Concern List A species from landscaping plans;
6. Prescribe a road surfacing and sealant as well as soil bonding and weighting agents to non-paved surfaces that are non-toxic to wildlife and plants; and
7. Design, install, and maintain facility lighting to prevent side casting of light towards wildlife habitat.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures will be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

Mitigation Management to Avoid Harassment or Harm

BIO-9 The project owner shall implement the following measures to manage their construction site and related facilities in a manner to avoid or minimize impacts to local biological resources:

1. Install temporary fencing and provide wildlife escape ramps for construction areas that contain steep walled holes or trenches if outside of an approved, permanent exclusionary fence. The temporary fence shall be hardware cloth or similar materials that are acceptable to USFWS and CDFG;
2. Conduct maintenance monitoring of permanent desert tortoise-exclusion fencing on a daily basis and complete repairs within one week of problem identification. Temporary fencing must be installed at any gaps if it shall remain open over night. Submit records of all monitoring dates, identify repair locations, and corrective actions in the Monthly Compliance Report and Annual Compliance Report;
3. Contact the Designated Biologist or Biological Monitor if wildlife is found within the permanent or temporary fenceline during construction and if it does not leave voluntarily without physical contact or harassment within 24 hours of being found. Actions to prevent physical harm to any wildlife from construction equipment shall immediately be taken by on-site staff. The local office of CDFG shall be contacted within 24 hours if sensitive wildlife is found within the fenceline during operations. For any wildlife found within the fenceline during construction, a report shall be completed

by the Designated Biologist and submitted with the Monthly Compliance Report. For any wildlife found within the fenceline during operations, a report shall be completed by the Designated Biologist and submitted with the Annual Compliance Report for the life of the project.

4. Make certain all food-related trash is disposed of in closed containers and removed at least once a week;
5. Prohibit feeding of wildlife by all workers;
6. Except for certified law enforcement personnel, all individuals will be prohibited from bringing firearms or weapons to the site;
7. Prohibit pets from being brought to the site;
8. Report all deaths of sensitive species to the appropriate project representative. Injured animals shall be reported to CDFG and the project owner shall follow instructions that are provided by CDFG; and
9. Minimize use of rodenticides and herbicides in the project area and prohibit the use of chemicals and pesticides known to cause harm to amphibians.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures will be reported in the Monthly Compliance Reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how measures have been completed.

Nesting or Migratory Bird Surveys and Impact Avoidance

BIO-10 The project owner shall implement the following measures to avoid or minimize impacts to nesting birds:

1. If ground disturbance activities will occur when birds, including but not limited to Le Conte's thrasher and loggerhead shrike, could be nesting on the power plant site, complete a pre-construction survey for nesting birds in the project area 30 days prior to the start of initial ground disturbance activities to assess presence and need for mitigation. Consult USFWS and CDFG if needed to determine an appropriate survey period.
2. Complete a pre-construction survey for other nesting birds in the remainder of the project area (e.g., linear facilities) during an appropriate survey period determined in consultation with USFWS

and CDFG and no less than 30 days prior to the start of initial ground disturbance activities.

3. If active, occupied nests are found, schedule work outside nesting and fledging periods. If this is not possible, fence the nest site a minimum of 200 feet (500 feet for federally or state-listed species and/or raptors) in all directions. This area shall not be disturbed until after September 15 and/or until the nest becomes inactive. These species include southwestern willow flycatcher, least Bell's vireo, western yellow-bird cuckoo, and other special-status birds that could nest in riparian habitat associated with the Mojave River. See BIO-18 for additional requirements related to drainages and riparian areas.
4. Common raven nests in desert tortoise habitat shall be removed as part of desert tortoise mitigation during the non-nesting period in consultation with USFWS and CDFG.

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall provide the CPM with the final version of the BRMIMP, which includes nesting bird survey results and any necessary impact avoidance measures. All modifications to the approved BRMIMP must be made only after review and approval by the CPM in consultation with CDFG and USFWS.

Desert Tortoise, Mohave Ground Squirrel, Burrowing Owl, and Creosote ring Compensation

BIO-11 To compensate for temporary and permanent impacts to desert tortoise, Mohave ground squirrel, burrowing owl, creosote rings, and their habitat, the project owner shall implement a habitat compensation strategy that guarantees the perpetual care of at least 1,315.5 acres of off-site habitat in the region of the proposed project. The selected compensation land must be suitable for all three special-status species and creosote rings as determined by the CPM through consultation with the Mohave ground squirrel technical advisory group, CDFG, other technical advisory groups recommended by CDFG, and USFWS. The project owner shall attempt to acquire parcels that are as contiguous as possible in the same timeframe rather (i.e., avoid significantly separated parcels and "piecemeal" acquisition). This mitigation acreage shall not overlap with other previously planned compensation land requirements set aside for other city projects.

As part of this condition, project owner shall:

1. Transfer fee title for the habitat compensation lands or a conservation easement over the habitat compensation lands to CDFG or to a third party non-profit habitat conservation

organization (hereafter referred to as “third party”), such as DTPC, with experience in acquiring and protecting desert tortoise, Mohave ground squirrel, and burrowing owl habitat, approved by the CPM, in consultation with CDFG, under terms approved by the CPM. No third party shall be approved by the CPM until after the CPM has reviewed the third party’s management plan. In the alternative, if approved by the CPM, the project owner may provide a check or a letter of credit to CDFG with a copy to the CPM in an amount deemed sufficient by the CPM, in consultation with CDFG, for acquisition of the habitat compensation lands identified in this condition of certification.

2. Provide to the third party or CDFG a check in the amount acceptable to the CPM, in consultation with CDFG, drawn from a banking institution located within California, for use as principal for a permanent, non-wasting capital endowment. The endowment amount shall be determined through a PAR analysis. Interest from this amount shall be available for the operation, management and protection of the habitat compensation lands, including reasonable administrative overhead, biological monitoring, improvements to carrying capacity, law enforcement measures, and any other action designed to protect or improve the habitat values of the habitat compensation lands. The endowment principal shall not be drawn upon unless such withdrawal is deemed necessary by the CPM, in consultation with CDFG, to ensure the continued viability of the species on the habitat compensation lands. The CPM, in consultation with CDFG, will decide how the funds will be spent. Monies received by CDFG pursuant to this provision shall be deposited in a special deposit account established pursuant to Fish and Game Code section 13014.
3. The project owner shall provide to the third party or CDFG funds for the initial protection and enhancement of the habitat compensation lands, if the PAR analysis indicates that such activities are needed for the specific parcels selected. The amount required for initial protection and enhancement needs to be approved by the CPM, in consultation with CDFG, once the project owner identifies the habitat compensation lands. Alternatively, project owner may fund CDFG’s initial protection and enhancement of the lands by providing the funds required for the initial protection and enhancement as determined by the CPM, in consultation with CDFG, to CDFG.

The project owner may proceed with ground-disturbing project activities before completing all of the required mitigation (including acquisition of habitat compensation lands), monitoring, and reporting activities only if the project owner ensures funding to complete those

activities by providing to the CPM and CDFG prior to commencing ground-disturbing activities or within 12 months of publication of the Energy Commission Decision, whichever occurs first: an irrevocable letter of credit, a pledged savings account, or another form of security (“Security”) approved by the Office of the General Counsel at the Energy Commission, in consultation with CDFG, in the amount necessary to ensure that all funds required pursuant to 1 – 3 above are available. The Security shall allow the Energy Commission and CDFG, to draw on the principal sum if the CPM, in consultation with CDFG, determines that project owner has failed to comply with the conditions of certification.

Verification: No later than 12 months following the publication of the Energy Commission Decision, the project owner will provide written verification to the CPM that the habitat compensation purchase has been completed. At the same time, the project owner will provide a certified check for the endowment and for initial protection and restoration activities, if required, to the third party **or** CDFG and written verification to the CPM that the check has been provided. Within six months of the land purchase (as determined by the date on title), the project owner shall provide the CPM a management plan for the habitat compensation lands and associated funds for review and approval in consultation with CDFG.

Within 90 days after completion of project construction, the project owner shall provide the CPM aerial photographs taken after construction and an analysis of the amount of any habitat disturbance additional to that identified in this staff assessment. The CPM will notify the project owner of any additional funds required to compensate for any additional habitat disturbances at the adjusted market value at the time of construction to acquire and manage habitat.

Desert Tortoise Impact Avoidance and Minimization Measures

BIO-12 The project owner shall incorporate all terms and conditions from the USFWS (2008a) Biological Opinion and the requirements identified in the final desert tortoise translocation plan submitted May 8, 2008, with the exceptions noted below in the Handling and Monitoring and Reporting sections, into the project’s final BRMIMP. The BRMIMP will also include the mitigation measures identified in Biological Resources section 6.4 and Appendix H of the AFC (Victorville 2007a), responses to data requests (ENSR 2007d), and the Draft Biological Assessment (ENSR 2007b) unless they conflict with terms and conditions required in the Biological Opinion, final desert tortoise translocation plan, below, or elsewhere in the conditions of certification. In the case of an apparent conflict in mitigation measures, the project owner shall prior to completion of the final BRMIMP notify the CPM, who will confer with USFWS and CDFG, and then clarify and resolve the differences.

The revised final desert tortoise translocation plan shall be resubmitted after the BRMIMP is approved by the CPM, and shall be consistent with the requirements of the approved BRMIMP and of this condition of certification. If there are additional changes to the BRMIMP affecting the desert tortoise translocation plan, the CPM may require modification and resubmittal of the desert tortoise translocation plan to reflect those changes.

The project owner shall ensure the following measures are implemented:

Fencing

1. Fence the construction areas and permanent facilities with desert tortoise-proof fencing prior to mobilization in undeveloped areas. Gate(s) shall be desert tortoise proof as well. Gate(s) shall remain closed except for the immediate passage of vehicles. High use gate(s) will be maintained and have monthly examinations.
2. The fences will be maintained and checked on a daily basis to ensure the integrity of the fence is maintained. The Designated Biologist shall be present onsite to monitor construction and determine fence placement during fence installation.
3. Following fencing, a trained tortoise biologist shall search the interior and exterior of the fenced area areas for tortoises.
4. Temporary fencing during construction along roads shall be installed at the direction of the Designated Biologist, and a biological monitor shall be on call for wildlife issues. Limit fence encroachment into relatively undisturbed desert tortoise, Mohave ground squirrel, and burrowing owl habitat while minimizing the potential for animals becoming trapped on the road side of the fence. The applicant shall account for the fence encroachment acreage in the final habitat disturbance calculations and provide any resulting, additional compensation habitat that would be required. At road intersections, extend the main fence at right angles along the edge of the intersecting road for 30 feet to discourage desert tortoises from following the main fenceline from directly crossing the intersecting road.

Handling

5. Collection, holding, and translocation of tortoises shall comply with the Desert Tortoise Council (1994, revised 1999) handling protocol (i.e., Guidelines for Handling Desert Tortoises during Construction

Projects prepared for the USFWS) that ensures their health and safety.

6. Tortoises shall be kept upright at all times and handled in a secure but gentle manner to minimize stress including the possibility of voiding the bladder.
7. Tortoise burrows shall be excavated using hand tools under the supervision of the Designated Biologist. Excavations are permitted only prior to 12:00 noon and within the temperature guidelines established in the Biological Opinion. To prevent re-entry by a tortoise, all burrows in the construction zone that do not contain tortoises shall be collapsed.
8. Instruct all employees and contractors to look under vehicles and equipment for the presence of protected species prior to movement. No equipment will be moved until the animal has left voluntarily or it is removed by a biologist authorized to do so. Any time a vehicle is parked, the ground around and under the vehicle will be inspected for desert tortoises and other wildlife before the vehicle is moved.
9. The Designated Biologist shall follow the Desert Tortoise Council guidelines for proper handling of desert tortoise. If a desert tortoise is observed in an active work area on the project site, whether above ground, in a burrow, or in an open trench, it will be left to move on its own. If this does not occur within 15 minutes, the Designated Biologist can remove and relocate the tortoise into undisturbed habitat (i.e., at least 1,000 feet outside of the transmission line right-of-way, in a temporary holding area, or permanent translocation site). Desert tortoises that are found above ground and need to be moved from harm's way shall be placed in the shade of a large, marked shrub. All desert tortoises removed from burrows will be placed in an unoccupied burrow of approximately the same size as the one from which it was removed. If an existing burrow is unavailable, the Designated Biologist will construct or direct the construction of a burrow of similar shape, size, depth, and orientation as the original burrow. The project owner shall monitor desert tortoises moved during inactive periods for at least two days after placement in the new burrows to ensure their safety. The Designated Biologist will be allowed some judgment and discretion to ensure that survival of the desert tortoise is likely. Notwithstanding the final desert tortoise translocation plan, submitted May 8, 2008, the following item shall be completed and reflected in the revised plan:

10. No desert tortoises shall be handled or moved prior to Energy Commission licensing of the project. Change the schedule on page 27 of the plan (i.e., delete May and June) and other references throughout to reflect this limitation.

Monitoring and Reporting

11. Report all encounters with federally- or state-listed species to the Designated Biologist, who will record the following information for the monthly compliance report: (1) species name; (2) location (global positioning system coordinates, narrative and maps) and dates of observations; (3) general condition and health, including injuries and state of healing; (4) diagnostic markings, including identification numbers or markers; and (5) locations moved from and to.

Notwithstanding the final desert tortoise translocation plan, submitted May 8, 2008, the following items shall be completed and reflected in the revised plan:

12. Monitor survivorship of translocated tortoises for at least 18 months, and report the results in consultation with the CPM, CDFG, and USFWS. This work shall encompass monitoring in all four seasons and be timed to include two spring seasons. This will allow a meaningful assessment of spring emergence from burrows in consideration of the atypical fall translocation time. References to the previous 12-month monitoring period shall be changed to 18 months throughout the plan.
13. Tortoises fitted with transmitters shall be monitored at least every other week because most movement will likely occur shortly after release due to unfamiliarity with the new location. Once tortoises become established the frequency of monitoring can be changed to monthly.

Approval of any change in monitoring frequency will be acquired from appropriate agencies monthly. Following translocation and a planned telemetry monitoring period of at least 18 months, transmitters shall be removed (page 25 of plan).

14. All other desert tortoises observed while tracking translocated tortoises will be marked with identifying numbers and processed for general health parameters. Their location using GPS will also be recorded. All translocated animals found during a dawn to dusk search will be monitored between September 2008 and April 2010, after which transmitters will be removed. If animals are not located

in the one-day monitoring, continue searching until they are located. This might require multiple days depending on the ease or difficulty in locating the animals (page 48 of plan).

Translocation Site

15. The translocation site selected shall support suitable desert tortoise habitat, including appropriate cover and forage.
16. No sensitive biological resources, including other special-status species sensitive habitats or unique vegetation assemblages, shall be disturbed during translocation activities and site preparation, such as artificial/nest burrow installation and juvenile desert tortoise release pen construction.
17. Existing roads or pedestrian access where roads are lacking shall be used to transport desert tortoises to the translocation site and monitor translocation success.

Verification: At least 30 days prior to the start of any site or related facilities mobilization activities, the project owner shall incorporate the associated terms and conditions of this condition of certification into the project's BRMIMP, and implement them.

Mohave Ground Squirrel Impact Avoidance and Minimization Measures

BIO-13 The project owner shall implement the associated mitigation measures identified in Biological Resources section 6.4 and Appendix H of the AFC, responses to data requests, and the Draft Biological Assessment. The details of the compensation land required are specified in **BIO-11**. These mitigation measures shall also be incorporated into the final BRMIMP and implemented unless they conflict with terms and conditions required below or elsewhere in the conditions of certification. In the case of an apparent conflict in mitigation measures, the project owner shall, prior to completion of the final BRMIMP, notify the CPM who will confer with USFWS and CDFG, and then clarify and resolve the differences.

The project owner shall implement the following measures, which would be included as terms and conditions in an Incidental Take Permit were the project not under Energy Commission jurisdiction.

1. Project-related personnel shall access the project site during construction and development activities using existing routes and shall not cross Mohave ground squirrel habitat outside of the project site. To the extent possible, previously disturbed areas

within the project site shall be used for temporary storage areas, staging/laydown sites, and any other surface-disturbing activities. If construction of off-site routes of travel will be required, CDFG and the CPM shall be contacted prior to carrying out such an activity.

2. Project owner's obligations under the Energy Commission's license do not end until the CPM, in consultation with CDFG, accepts the Final Mitigation Report as complete.
3. The Designated Biologist shall follow the notification procedures specified in Condition of Certification BIO-14.
4. If a Mohave ground squirrel is found in a burrow during project-related activities on the site, it shall be immediately relocated to a burrow at a protected off-site location approved by the CDFG's Regional Representative. The Mohave ground squirrel may only be relocated by a qualified biologist. The relocation burrow shall be prepared in the following manner: dig a hole at least two (2) feet deep, place a nine (9) inch diameter plastic container (with thick enough walls that it will not collapse when buried) in the hole, place cotton bedding material in the container, connect the container to a three (3) inch diameter flexible plastic pipe (with thick enough walls that it will not collapse when buried) running to the surface at a 45 degree angle, cover the artificial burrow with dirt leaving the surface end of the three inch pipe open, and place the Mohave ground squirrel in the artificial burrow and lightly plug the burrow mouth with soil (in a manner similar to what Mohave ground squirrel do in natural burrows). Written notification shall include the date, time, location and circumstances of the incident, the name of the party that actually relocated the animal, and the location (including GPS coordinates) to which the animal was moved.
5. If the applicant chooses to conduct protocol-level trapping in transmission line segments 2 or 3 and the results are negative, the applicant has one year from the survey date to complete project work in these areas and exclude these areas from mitigation requirements above.

CDFG, in preparation for evidentiary hearing, is free to propose additional terms to this condition of certification for sponsorship in the evidentiary record.

Verification: At least 30 days prior to the start of any site or related facilities mobilization activities, the project owner shall incorporate the above terms and conditions into the project's BRMIMP, and implement them.

Desert Tortoise and Mohave Ground Squirrel Compliance

BIO-14 The project owner shall provide Energy Commission and CDFG representatives with reasonable access to the project site and mitigation lands under the control of the project owner and shall otherwise fully cooperate with the Energy Commission's and CDFG's efforts to verify the project owner's compliance with, or the effectiveness of, mitigation measures set forth in the conditions of certification. The project owner shall hold the Designated Biologist, the Energy Commission, and CDFG harmless for any costs the project owner incurs in complying with the management measures, including stop work orders issued by the CPM, CDFG, or the Designated Biologist.

The Designated Biologist shall do all of the following:

1. Notify the CPM and CDFG at least fourteen (14) calendar days before initiating ground-disturbing activities;
2. Immediately notify the CPM and CDFG in writing if the project owner is not in compliance with any conditions of certification, including but not limited to any actual or anticipated failure to implement mitigation measures within the time periods specified in the conditions of certification;
3. Remain onsite daily while grubbing and grading are taking place to avoid or minimize take of listed species, to check for compliance with all impact avoidance and minimization measures, and to check all exclusion zones to ensure that signs, stakes, and fencing are intact and that human activities are restricted in these protective zones.
4. Maintain and check fences on a daily basis to ensure the integrity of the fence is maintained. The Designated Biologist shall be present onsite to monitor construction and determine fence placement during fence installation.
5. Conduct compliance inspections at a minimum of once per month after clearing, grubbing, and grading are completed and submit a monthly compliance report to the CPM and CDFG's Victorville office;
6. No later than January 31 of every year the Victorville 2 facility remains in operation, provide the CPM and CDFG an annual Listed Species Status Report, which shall include, at a minimum:
 - 1) a general description of the status of the project site and construction activities, including actual or projected completion dates, if known;
 - 2) a copy of the table in the BRMIMP with notes

showing the current implementation status of each mitigation measure; and 3) an assessment of the effectiveness of each completed or partially completed mitigation measure in minimizing and compensating for project impacts;

7. Ensure that all observations of listed species and their sign during project activities are reported to the Designated Biologist for inclusion in the next monthly compliance report submitted to the CPM and CDFG;
8. No later than 45 days after the first firing of fuel in the project's equipment, provide the CPM and CDFG a Final Listed Species Mitigation Report that shall include, at a minimum: 1) a copy of the table in the BRMIMP with notes showing when each of the mitigation measures was implemented; 2) all available information about project-related incidental take of listed species; 3) information about other project impacts on the listed species; 4) construction dates; 5) an assessment of the effectiveness of conditions of certification in minimizing and compensating for project impacts; 6) recommendations on how mitigation measures might be changed to more effectively minimize and mitigate the impacts of future projects on the listed species; and 7) any other pertinent information, including the level of take of the listed species associated with the project;
9. In the event of a sighting in an active construction area (e.g., with equipment, vehicles, or workers), injury, kill, or relocation of any listed species, notify the CPM, CDFG, and USFWS immediately by phone and in no event later than noon on the business day following the event if it occurs outside normal business hours so that the agencies can determine what further actions, if any, are required to protect listed species;
10. Prepare written follow-up notification via phone or FAX to these agencies within two (2) calendar days of the incident and include the following information as relevant:
 - A. If a desert tortoise or Mohave ground squirrel is injured as a result of project related activities during construction, the Designated Biologist will immediately take it to a CDFG-approved wildlife rehabilitation and/or veterinarian clinic. Any veterinarian bills for such injured animals will be paid by the project owner. Following phone notification as required above, the CPM, CDFG, and USFWS will determine the final disposition of the injured animal, if it recovers. Written notification shall include, at a minimum, the date, time, location, circumstances of the incident, and the name of the facility where the animal was taken.

- B. If a desert tortoise is killed by project-related activities during construction, or if a desert tortoise is otherwise found dead, submit a written report with the same information as an injury report. These desert tortoises shall be salvaged according to *Salvaging Injured, Recently Dead, Ill, and Dying Wild, Free-Roaming Desert Tortoise* prepared by Kristin Berry, June 2001. The project owner shall pay to have these desert tortoises necropsied. The report will include the date and time of the finding or incident.
 - C. If a Mohave ground squirrel is killed by project-related activities during construction, or if a Mohave ground squirrel is otherwise found dead, the Designated Biologist shall immediately notify agencies as specified above. The written notification will include the date, time of the finding or incident, location of the carcass, and the circumstances.
11. The CPM may issue the project owner a written stop work order to suspend any activity related to the construction or operation of the project for an appropriate period determined in consultation with CDFG in order to prevent or remedy a violation of one or more conditions of certification (including but not limited to failure to comply with reporting, monitoring, or habitat acquisition obligations) or to prevent the illegal take of an endangered, threatened, or candidate species. The project owner shall comply with the stop work order immediately upon receipt thereof.

Verification: No later than two (2) calendar days following the above required notification of a sighting, kill, or relocation of a listed species, the project owner shall deliver to the CPM, CDFG, and USFWS via FAX or e-mail the written report from the Designated Biologist describing all reported incidents of injury, kill, or relocation of a listed species, identifying who was notified, and explaining when the incidents occurred. In the case of a sighting in an active construction area, the project owner shall, at the same time, submit a map (e.g., using Geographic Information Systems) depicting both the limits of construction and sighting location to the CPM, CDFG, and USFWS.

Burrowing Owl Impact Avoidance and Minimization Measures

BIO-15 The project owner shall implement the following measures for the burrowing owl:

- 4. Complete a pre-construction survey for burrowing owls on the project site and linear facilities (this also supplements previously unsurveyed areas) no less than 30 days prior to the start of initial ground disturbance activities. If burrowing owls are present within 500 feet of the project site or linear facilities, then the CDFG burrowing owl guidelines (1995) shall be implemented;

5. Monitor burrowing owl pairs within 500 feet of any activities that exceed ambient noise and/or vibration levels;
6. Establish a 500-foot set back from any active burrow and construct additional noise/visual barriers (e.g., haystacks or plywood fencing) to shield the active burrow from construction activities. Post signs (in both English and Spanish) designating presence of sensitive area;
7. Passively relocate all owls occupying burrows that will be temporarily or permanently impacted by the project and implement the following CDFG take avoidance measures (Victorville, Attachment DR 10-10):
 - A. Occupied burrows shall not be disturbed during the nesting season (February 1 – August 31) unless a qualified biologist can verify through non-invasive methods that egg laying/incubation has not begun or juveniles are foraging independently and able to fly;
 - B. A qualified biologist must relocate owls, confirm that owls have left burrows prior to ground-disturbing activities, and monitor the burrows. Once evacuation is confirmed, the biologist should hand excavate burrows and then fill burrows to prevent reoccupation; and
 - C. Relocation of owls shall be approved by and conducted in consultation with CDFG.
8. Submit a Burrowing Owl Mitigation and Monitoring Plan to CDFG for review and approval prior to relocation of owls (and incorporate it into the project's BRMIMP) as well as a construction termination report with results to CDFG and CPM 30 days after completing owl relocation and monitoring and at least 30 days prior to the start of commercial operation.

Verification: The project owner shall submit a report to CDFG, USFWS, and the CPM at least 30 days prior to the start of site mobilization that describes when surveys were completed, observations, mitigation measures, and the results of the measures. If owls are to be relocated, the project owner shall coordinate with and report to CDFG on the number of new burrows, their locations, and how any created burrows/individuals and compensation land will be protected for the life of the project in a Burrowing Owl Mitigation and Monitoring Plan. Within 30 days after completion of owl relocation and monitoring, and the start of ground disturbance or at least 90 days prior to the sale of power, the project owner shall provide to the CDFG and CPM a written construction termination report identifying how measures have been completed.

Rare Plant Survey and Impact Avoidance

BIO-16 A qualified botanist shall survey for rare plants on the power plant site and in suitable habitat along linear facilities in the spring of 2008 (and other appropriate identification periods if needed) according to the California Native Plant Society's Botanical Survey Guidelines (CNPS 2001). Immediately following the survey, submit a Rare Plant Survey Report to the CPM. This submittal may be included as part of the Monthly Compliance Report. If no rare plants are found, no further mitigation will be required.

If any rare plants are found, the following measures shall be implemented:

1. Immediately submit a completed California Native Species Form to the CNDDDB.
2. If the plants can be avoided, they will be clearly marked in the field by a qualified botanist for avoidance during construction activities.
3. If avoidance is not possible, consult with the CPM and CDFG to develop a mitigation plan, which could include salvage of plants by CDFG a minimum of ten days prior to ground disturbance, creation of off-site occurrences through transplantation or seed banking, preservation through additional habitat acquisition, enhancement of existing occurrences, and/or restoration or creation of suitable habitat in sufficient quantities to compensate to for the impact(s).
4. Incorporate the mitigation plan into the final BRMIMP.
5. In no event shall any project related ground disturbance occur until the CPM, in consultation with CDFG, has approved the rare plant survey and mitigation plan, if required.

Verification: At least 30 days prior to start of any project-related ground disturbance activities, the project owner shall perform a survey for rare plants. The survey results, and if rare plants are present, the actions taken to avoid, minimize, or compensate for any rare plants located, shall be documented in the Rare Plant Survey Report and submitted to the CPM. Immediately following the survey, California Native Species Forms shall be submitted to the CNDDDB for each rare plant occurrence located. The mitigation plan, if needed, shall be approved by the CPM in consultation with CDFG and incorporated into the final BRMIMP.

Joshua Tree, Cacti, and Creosote Ring Protection, Salvage, and Relocation

BIO-17 The project owner shall incorporate into the BRMIMP a plan that address the protection of Joshua trees, cacti, and creosote rings as well as obtain the necessary permits related to impacting these plants. The details of the compensation land required for creosote rings are specified in **BIO-11**.

The desert native plant protection, compensation, and salvage plan shall address the following elements including but not limited to those below:

1. An inventory of all Joshua trees, cacti, and ≥ 10 -foot-diameter creosote rings. The inventory shall include photographs, mapped locations, and measurements for each creosote ring;
2. Plant retention/relocation/removal plan;
3. Plant avoidance or protection measures;
4. Landscaping plan;
5. Re-vegetation plan;
6. Transplantation measures and success criteria;
7. Compensation methods;
8. Maps showing agency-approved plant relocation areas;
9. Contact information and terms of agreements/contracts with local plant adoption programs or nurseries, if used; and
10. Mitigation monitoring and reporting.

Verification: At least 60 days prior to start of any project-related ground disturbance activities, the project owner shall perform an inventory of Joshua trees, cacti, and creosote rings. The survey results, and actions taken to avoid, minimize, or compensate for impacts, shall be documented in the Monthly Compliance Report by the Designated Biologist and that report submitted to the CPM. The desert native plant protection, compensation, and salvage plan shall be made part of the BRMIMP. At least 60 days prior to the start of any site or related facilities mobilization activities, the project owner shall submit to the CPM copies of the plan and permits authorizing removal/relocation of these plants from the County, the city of Victorville, and the city of Hesperia, as necessary. The project owner shall implement all permit terms and conditions and report on their status in the Monthly Compliance Report.

Streambed Impact Avoidance and Minimization Measures

BIO-18 Except as specifically provided herein, the project owner shall not divert or obstruct the natural flow of, or alter the bed, channel, or bank of, or remove material from any drainage during construction and operation of the project. The project owner may use the existing roadway located at drainage D2 for the purpose of inspecting and maintaining the wastewater pipeline and transmission line but only during periods when the streambed is dry. The project owner may trench across drainage D1 for the purpose of installing the wastewater pipeline. The project owner shall implement the following best management practices and notification procedures:

- A. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, construction waste, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material should be allowed to enter into or placed where it may be washed by rainfall or runoff into, waters of the state. When operations are completed, any excess materials or debris should be removed from the work area. The project owner should comply with all litter and pollution laws. All contractors, subcontractors, and employees should also obey these laws and it shall be the responsibility of the operator to ensure compliance.
- B. Any equipment or vehicles driven and/or operated within or adjacent to the stream/lake should be checked and maintained daily, to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.
- C. Stationary equipment such as motors, pumps, generators, and welders, located within or adjacent to the stream/lake should be positioned over drip pans.
- D. No equipment maintenance should be done within or near any stream channel where petroleum products or other pollutants from the equipment may enter these areas under any flow.
- E. The cleanup of all spills should begin immediately. CDFG should be notified immediately by the project owner of any spills and should be consulted regarding clean-up procedures.
- F. Raw cement/concrete or washings thereof, asphalt, paint, construction waste, or other coating material, oil or other petroleum products, or any other substances, which could be hazardous to aquatic life, resulting from project related activities, should be prevented from contaminating the soil and/or entering drainages.

Any of these materials, placed within or where they may enter a drainage, by the project owner or any party working under contract, or with the permission of the project owner, should be removed immediately.

- G. Spoil sites shall not be located within a drainage, lake, or locations that may be subjected to high storm flows, where spoils could be washed back into the feature or where it will impact streambed habitat, or aquatic or riparian vegetation.
- H. The project owner shall notify the CPM and CDFG, in writing, at least five (5) days prior to initiation of project activities in jurisdictional areas as noted and at least five days prior to completion of project activities in jurisdictional areas.
- I. The project owner shall notify the CPM and CDFG of any change of conditions to the project, the jurisdictional impacts, or the mitigation efforts, if the conditions at the site of a proposed project change in a manner which increases or decreases the risk that a fish or wildlife resource may be substantially adversely affected by the proposed project. The notifying report shall be provided to the CPM and CDFG no later than seven (7) days after the change of conditions is identified. As used here, change of condition refers to the process, procedures, and methods of operation of a project, the biological and physical characteristics of a project area, or the laws or regulations pertinent to the project as defined below. A copy of the notifying change of conditions report shall be included in the Annual Compliance Report.
- J. The project owner shall provide a copy of the Energy Commission Decision to all contractors, subcontractors, and the applicant's project supervisors. Copies shall be readily available at work sites at all times during periods of active work and must be presented to any personnel from CDFG or another agency upon demand.

Verification: No fewer than 30 days prior to the start of any site or related facilities mobilization activities, the project owner shall implement the mitigation measures above as required by the Energy Commission and CDFG. No fewer than 30 days prior to the start of work potentially affecting waters of the state or riparian vegetation, the project owner shall provide written verification (i.e., through incorporation into the BRMIMP) to the CPM that the above best management practices will be implemented and provide a discussion of work in waters of the state in Monthly Compliance Reports for the duration of activities affecting waters of the state or riparian vegetation.

B. SOIL AND WATER RESOURCES

This section focuses on the soil and water resources associated with the project, including the project's potential to induce erosion and sedimentation, adversely affect water supplies, and degrade water quality. The analysis also considers site contamination and any potential cumulative impacts to water quality in the vicinity of the project. Mitigation measures are included in the Conditions of Certification to ensure that the project will have no significant impacts on the environment and that it will comply with all applicable laws, ordinances, regulations, and standards.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Soil Resources

The soils at the proposed Victorville site consist of deep, moderately well to excessively drained soils on low river terraces and alluvial deposits. Surface soils typically consist of sandy loam, a substratum of sandy loam, and thin strata of loamy sand, sand and clay loam. In general, soils of the project are highly permeable and have low to moderate water erosion potential. However, the coarse texture of the soils causes them to be highly vulnerable to wind erosion. (Ex. 200, pp. 4.9-12 - 4.9-13.)

The evidence shows that potential adverse impacts caused by soil erosion and stormwater flows during construction and operation would be mitigated through the use of Best Management Practices (BMPs), a Drainage, Erosion, and Sedimentation Control Plan (DESCP), a Storm Water Pollution Prevention Plan (SWPPPs), and compliance with General National Pollutant Discharge Elimination System (NPDES) Permits for Discharges of Storm Water Associated with Construction and Industrial Activities that are included in Conditions of Certification **SOIL&WATER-1, -2 and -3**. (Ex. 200, pp. 4.9-19 – 4.9-23.)

2. Groundwater

A Phase I Environmental Site Assessment (ESA) was conducted for the proposed Victorville 2 site. (Ex. 36.) The evidence shows that the site has always been vacant, undeveloped land except for one existing single-family residence. Evidence of past or present hazardous substance use, storage or disposal was not observed on the property during the site reconnaissance. (Ex. 200, p. 4.9-13.)

The site is within the George Groundwater sub-basin which includes an upper perched aquifer and a deeper regional aquifer system. Portions of the perched aquifer system in the vicinity of the SCLA have been contaminated with trichloroethylene (TCE) from leaking underground tanks and/or because of historical military activities. The Federal Environmental Protection Agency has added George AFB to the Superfund National Priority List. Along the routes for the Victorville 2 sanitary wastewater pipeline and transmission lines, the TCE groundwater plume is present in the lower aquifer, approximately 210 to 250 feet below ground surface. The presence of TCE in the groundwater is a Recognized Environmental Condition (REC). An REC is the presence or likely presence of any hazardous substances or petroleum products on a property under the conditions that indicate an existing release, past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or in the ground, groundwater, or surface water of the property. (*Id.*)

3. Project Water Supply and Treatment

Soil and Water **Table 1** summarizes the proposed project's water needs. The Victorville 2 project would have two sources of water. Recycled water would be the primary water supply for project process needs during operations, and groundwater that serves local municipal needs would be used to meet the project's potable water demands. Groundwater is also proposed to be used as

the project's operational backup water supply. (Ex. 200, p. 4.9-14.) Victorville Water, a division of the city of Victorville, which operates the area's domestic groundwater supply system, would provide both the potable groundwater and recycled water supplies for Victorville 2. A 1.5-mile pipeline will be constructed from the VVWRA treatment plant to the Victorville 2 project to supply recycled water to the project. Water will be trucked from the treatment plant to the Victorville 2 construction site for dust suppression until the pipeline is constructed. (Ex. 200, p. 4.9-15.) During construction, recycled water would be used to meet the all of the project's non-potable water demands, including for dust suppression and compaction. During the first stage of construction grading for the power block area, the Applicant estimates that the daily maximum water demand would be 65,000 gallons per day (gpd). During the next stage for grading of the solar field, average daily water use would increase to a maximum of 650,000 gpd. During non-grading construction periods, the average daily water demand would be about 58,000 gpd. (*Id.*)

During operations, recycled water would be used for cooling, other process needs, mirror washing, fire protection and landscaping. The Applicant estimates plant operations will require a maximum annual water supply of 3,150 AFY, including 46 AFY for mirror washing. The average maximum daily rate would be 2,603 gallons per minute (gpm) and the peak daily rate would be 2,965 gpm. The effect of the project's recycled water use would be to reduce return flows and thereby remove water from the basin's hydrologic system. Recycled water used by the project, except for landscape irrigation, would be completely consumed through evaporation. (*Id.*)

Soil & Water - Table 1

Victorville 2's Annual Water Needs

Water Use	Maximum Annual Use (acre-feet/year)	Water Supply Source	Water Supplier
Process Water¹	3,150	Recycled Water	Victor Valley Water Reclamation Authority (VWRA) ²
Process Water Backup Supply	45 ³	Groundwater	Victorville Water ⁴
Potable Water	3.6	Groundwater	Victorville Water ⁴

¹ Operational process water uses include cooling, other process needs, fire protection and landscaping. Potable groundwater will serve as the backup water supply for the project's process demands.

² City of Victorville has an agreement to purchase all VWRA recycled water production in excess of required discharges to the Mojave River

³ The Applicant's worst-case assumption is that the backup water demand would be no more than 45 acre-feet annually (Data Request 78).

⁴ City of Victorville purchased the Victor Valley Water District, the primary potable water supplier to the city of Victorville, on August 15, 2007. The new name for this service provider is Victorville Water.

(Ex. 200, p. 4.9-16.)

VWRA is increasing its production of recycled water. Any excess is discharged to the Mojave River. The nearby High Desert Power Plant (HDPP), which currently uses California Water Project water, is anticipated to begin use of VWRA recycled water in the near future. With the additional use of recycled water by HDPP, there would initially be a slight 2-year reduction in the amount of excess recycled water discharged to the Mojave River during 2010 and 2011, as compared to 2007. However, beginning in 2012, recycled water discharges to the Mojave River would again exceed baseline excess discharges of 6,600 acre-feet

as estimated for 2007, owing to the increase of recycled water production attributable to new business and residential developments in the city of Victorville. (Ex. 200, p. 4.9-30.)

Project use of recycled water would not be growth-inducing because it would have no effect on regional population growth or housing development. In addition, discharges to the Mojave River from the VVWRA facility would not be reduced below baseline levels. To ensure that recycled water use will not exceed the amount evaluated and permitted by the Energy Commission, we adopt of Condition of Certification **SOIL & WATER-7**, which establishes the project's annual water-use limit and specifies requirements for the metering and reporting of recycled water use. (Ex. 200, p. 4.9-32.)

Although the project's use of recycled water would reduce the amount of recycled water available for other uses, we find that this is not a substantial adverse impact. Furthermore, the amount of available recycled water product is expected to increase as the area population grows, further lessening the extent of any impact.

The Applicant proposes to comply with Titles 17 and 22 of the California Code of Regulations, which address the use of recycled water. Under these regulations, the project owner is required to prepare an Engineer's Report describing the production, distribution and use of recycled water and to obtain review and approval from DHS. The Engineer's Report will verify that VVWRA's recycled water meets the standards for unrestricted use and that the plumbing constructed for the Victorville 2 project is inspected for prevention of backflow and cross connection with the potable water supply. We adopt Condition of Certification **SOIL & WATER-5** to monitor and ensure compliance with DHS requirements. (Ex. 200, p. 4.9-41.)

4. Wastewater

The Applicant proposes two separate wastewater-collection systems for Victorville 2. The first is the process wastewater system, which collects all wastewater generated from operation of the plant and delivers it to the zero liquid discharge (ZLD) system. The ZLD System will recover about 90 percent of the wastewater for reuse by Victorville 2, and will concentrate the solids into a salt cake for disposal to a landfill. Plant drainage consisting of leakage and drainage from facility containment areas would be collected in a system of floor drains, sumps, and pipes within the Victorville 2 and discharged to an oil/water separator. The oil-free water will be reused in the cooling tower.

The second wastewater-collection system proposed by the Applicant is the sanitary system. The sanitary system would collect wastewater from sinks, toilets, and other sanitary facilities for discharge to the VVWRA's Adelanto Interceptor sewer pipeline. No significant water or soil related impacts are expected due to wastewater collection and disposal if the project owner complies with Condition of Certification **SOIL & WATER 6** which we adopt in this decision. It requires that the project owner treat all process wastewater with a ZLD system in accordance with a ZLD management plan. (Ex. 200, p. 4.9-25.)

5. Water and Wind Erosion

The Victorville 2 project site will be subject to wind and water erosion during construction and operation. Approximately 1.5 million cubic yards of earth will be moved during construction.

The Applicant has prepared a draft DESCP providing conceptual plans for erosion and drainage control measures during the construction phase of Victorville 2. We find the plan is reasonable and the sequence for implementing BMPs will avoid significant adverse impacts. (Ex. 200, p. 4.9-20.) Conditions of certification **SOIL & WATER-2, 3, and 4** will require the implementation and maintenance of drainage and erosion control measures according to plans as

specified in the DESC, Industrial SWPPP and Water Quality Management Plan (WQMP) respectively. We find that through the proper application of BMPs, the impact to soil resources from water and wind erosion during construction will be reduced to a level that is less than significant.

a. Stormwater

Without mitigation, runoff from the Victorville 2 site would exceed pre-development runoff due to the increase of impervious areas in proportion to the overall site. Therefore, the Applicant will design the drainage features for the site in accordance with the City of Victorville's Standard Specifications for Public Improvements and San Bernardino County's Hydrology Manual and Water Quality Management Plan Program. (Ex. 200, p. 4.9-25.) We find the Applicant has identified a reasonable plan and sequence for implementing BMPs in order to avoid significant adverse impacts caused by alteration of the site. Conditions of Certification we adopt in this Decision will ensure the proper implementation of these plans.

b. Flooding and Tsunami

The Victorville 2 site is not located within the 100-year floodplain of the Mojave River as defined by FEMA. Although the Victorville 2 post-construction stormwater runoff will exceed the pre-construction volume, the Applicant proposes to capture all site stormwater runoff in retention basins that will encourage infiltration and will attenuate any discharges so that they do not exceed the pre-developed runoff rates. The project would not be exposed to tsunami given its inland location and distance from any water body with large surface area. (Ex. 200, p. 4.9-28.)

Dry washes cross through the transmission line alignment. The dry washes are considered ephemeral streams that develop runoff in response to precipitation, and soon after go dry again. The Applicant does not propose to place any poles or towers within the drainages, and would instead span the transmission

conductor across them. Therefore, the project would not contribute to adverse flooding effects or disturb riparian habitat. (Ex. 200, p. 4.9-29.)

6. Cumulative Impacts and Mitigation

Temporary and permanent disturbances associated with construction of the project would cause accelerated wind- and water-induced erosion. However, we conclude that the implementation of proposed mitigation measures within the construction SWPPP and the DESCP would ensure that the project's contribution to soil and water resources impacts from water and wind erosion would not be cumulatively considerable.

Industrial wastewater streams would be eliminated by the use of a ZLD system and impacts from sanitary wastewater are not expected to contribute to a cumulative impact on surface-water or groundwater degradation.

The project's use of both recycled water and groundwater will have some impact on the area's limited water supplies. However, ever-increasing production of recycled water is expected to result in an overall surplus of recycled water in the next few years. The project's water use even when viewed in conjunction with other water uses, is not cumulatively considerable and will not contribute to a cumulatively significant impact.

FINDINGS AND CONCLUSIONS

Based upon the evidence, we find and conclude as follows:

1. Potential adverse impacts caused by erosion and stormwater flows during construction and operation would be mitigated with the development and implementation of an effective stormwater pollution prevention plan and a drainage, erosion, and sediment control plan.

2. The water supply for the project is consistent with state water conservation and use policies.
3. The proposed use of recycled water would not adversely impact the contributions recycled water currently makes in restoring flows to the Mojave River in accordance with the objectives delineated in the Memorandum of Understanding between Victor Valley Water Reclamation Authority and California Department of Fish and Game.
4. Recycled water is the most degraded quality water supply reasonably available to the project.
5. The proposed use of recycled water for the project's process water needs would not cause a significant adverse environmental impact or adversely affect current or future users of recycled water.
6. The project would not be located within the 100-year flood plain, and would not exacerbate flood conditions within the vicinity of the project.
7. The proposed recovery of process wastewater using Zero-Liquid-Discharge technology is consistent with state water use and conservation policies.

Based on these findings, we find that Victorville 2 would not result in any unmitigated, significant project-specific or cumulative adverse impacts to Soil or Water Resources and would comply with all applicable LORS with implementation of the Conditions of Certification set forth herein.

CONDITIONS OF CERTIFICATION

SOIL & WATER-1: The project owner shall comply with the requirements of the general National Pollutant Discharge Elimination System (NPDES) permit for discharge of stormwater associated with construction activity. The project owner shall develop and implement a construction stormwater pollution prevention plan (construction SWPPP) for the construction of the Victorville 2 site, laydown area, and all linear facilities.

Verification: The project owner shall submit to the compliance project manager (CPM) a copy of the construction SWPPP prior to site mobilization and retain a copy on site. The project owner shall submit copies to the CPM of all

correspondence between the project owner and the Lahontan Regional Water Quality Control Board regarding the NPDES permit for the discharge of stormwater associated with construction activity within 10 days of its receipt or submittal. Copies of correspondence shall include the notice of intent sent to the State Water Resources Control Board, and the board's confirmation letter indicating receipt and acceptance of the notice of intent.

SOIL & WATER-2: Prior to site mobilization, the project owner shall obtain CPM approval for a site-specific drainage, erosion, and sediment control plan (DESCP). The DESCP must ensure proper protection of water quality and soil resources, demonstrate no increase in off-site flooding potential, include provisions for sediment and stormwater retention from both the Power Block and Solar Field to meet San Bernardino County requirements, address exposed soil treatments in the Solar Field for both road and non-road surfaces, and identify all monitoring and maintenance activities. The DESCP shall contain elements 1 through 9 below outlining site management activities and erosion- and sediment-control BMPs to be implemented during site mobilization, excavation, construction, and post construction (operating) activities.

1. **Vicinity Map** – A map(s) at a minimum scale 1"=100' shall be provided indicating the location of all project elements (construction site, laydown area, pipelines) with depictions of all significant geographic features including swales, storm drains, and sensitive areas.
2. **Site Delineation** – All areas subject to soil disturbance for the Victorville 2 (project site, laydown area, all linear facilities, landscaping areas, and any other project elements) shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.
3. **Watercourses and Critical Areas** – The DESCP shall show the location of all nearby watercourses including swales, storm drains, and drainage ditches. It shall indicate the proximity of those features to the Victorville 2 construction, laydown, and landscape areas and all transmission and pipeline construction corridors.
4. **Drainage Map** – The DESCP shall provide a topographic site map(s) at a minimum scale of 1"=100' showing existing, interim, and proposed drainage swales and drainage systems and drainage-area boundaries. On the map, spot elevations are required where relatively flat conditions exist. The spot elevations and contours shall be extended off site for a minimum distance of 100 feet.

5. **Drainage of Project Site Narrative** – The DESCPC shall include a narrative of the drainage measures necessary to protect the site and potentially affected soil and water resources within the drainage downstream of the site. The narrative shall include the summary pages from the hydraulic analysis prepared by a professional engineer and erosion control specialist. The narrative shall state the watershed size(s) in acres that was used in the calculation of drainage features. The hydraulic analysis shall be used to support the selection of BMPs and structural controls to divert off-site and on-site drainage around or through the Victorville 2 site and laydown and linear areas.
6. **Clearing and Grading Plans** – The DESCPC shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections, or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Existing and proposed topography shall be illustrated by tying in proposed contours with existing topography.
7. **Clearing and Grading Narrative** – The DESCPC shall include a table with the quantities of material excavated or filled for the site and all project elements (project site, laydown area, transmission and pipeline corridors, roadways, and bridges) whether such excavation or fill is temporary or permanent, and the amount of such material to be imported or exported.
8. **Best Management Practices Plan** – The DESCPC shall identify on the topographic site map(s) the location of the site specific BMPs to be employed during each phase of construction (initial grading, project element excavation and construction, and final grading/stabilization). BMPs shall include measures designed to prevent wind and water erosion.
9. **Best Management Practices Narrative** – The DESCPC shall show the location (as identified in 8 above), timing, and maintenance schedule of all erosion- and sediment-control BMPs to be used prior to initial grading, during all project element (site, pipelines) excavations and construction, final grading/stabilization, and operation. Separate BMP implementation schedules shall be provided for each project element for each phase of construction. The maintenance schedule shall include post-construction maintenance of structural-control BMPs, or a statement provided about when such information will be available.

Verification: No later than 90 days prior to start of site mobilization, the project owner shall submit a copy of the DESCPC to San Bernardino County and

the Lahontan Regional Water Quality Control Board (Lahontan RWQCB) for review and comment. No later than 60 days prior to start of site mobilization, the project owner shall submit the DESCOP with the county's and Lahontan RWQCB's comments to the CPM for review and approval. The CPM shall consider comments by the county and Lahontan RWQCB before approval of the DESCOP. The DESCOP shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL 1**, and relevant portions of the DESCOP shall clearly show approval by the chief building official. The DESCOP shall be a separate plan from the SWPPP developed in conjunction with any NPDES permit for Construction Activity. The project owner shall provide in the monthly compliance report a narrative on the effectiveness of the drainage, erosion, and sediment-control measures and the results of monitoring and maintenance activities. Once operational, the project owner shall update and maintain the DESCOP for the life of the project and shall provide in the annual compliance report information on the results of monitoring and maintenance activities.

SOIL & WATER-3: The project owner shall comply with the requirements of the general NPDES permit for discharges of stormwater associated with industrial activity. The project owner shall develop and implement an industrial stormwater pollution prevention plan for the operation of Victorville 2.

Verification: The project owner shall submit to the CPM a copy of the industrial SWPPP for operation of the Victorville 2 prior to commercial operation, and shall retain a copy on site. The project owner shall submit copies to the CPM of all correspondence between the project owner and the Lahontan RWQCB regarding the general NPDES permit for discharge of stormwater associated with industrial activity within 10 days of its receipt or submittal. Copies of correspondence shall include the Notice of Intent sent by the project owner to the State Water Resources Control Board.

SOIL & WATER-4 The project owner shall comply with the requirements of the Water Quality Management Plan Program for managing stormwater during project operations as normally administered by the San Bernardino County Public Works – Environmental Management Department. The project owner shall develop a Water Quality Management Plan that incorporates these requirements during project design and implement the plan for the operation phase of Victorville 2.

Verification: At least 60 days prior to site mobilization, the project owner shall submit copies of the Water Quality Management Plan for operation of the Victorville 2 to the San Bernardino County Public Works – Environmental Management Department for review and comment and to the CPM for review and approval. The project owner shall submit copies to the CPM of all correspondence between the project owner and the San Bernardino County Public Works – Environmental Management Department regarding the Water Quality Management Plan within 10 days of its receipt or submittal.

SOIL & WATER-5 The Victorville 2 shall use recycled water for all non-potable plant construction and operation uses including cooling, mirror washing and landscape irrigation. The Victorville 2 shall comply with all requirements of Title 22 and Title 17 California Code of Regulations. Prior to delivery of recycled water to the Victorville 2 for any purpose, the owner shall submit a Title 22 Engineer's Report and copies of any review comments from the review by the Department of Health Services (DHS) and the Lahontan Regional Water Quality Control Board (RWQCB), for review and approval by the CPM.

Verification: Prior to beginning any site mobilization activities, the project owner shall submit to the CPM the water supply and distribution system design and Engineer's Report for the Production, Distribution and Use of Recycled Water and copies of any comments from DHS and the Lahontan RWQCB for review and approval by the CPM. The water supply and distribution system design shall be included in the final design drawings submitted to the CBO as required in Condition of Certification **CIVIL 1**.

The Engineer's Report for the Production, Distribution and Use of Recycled Water shall be prepared in accordance with Title 22 and Title 17 of the CA Code of Regulations, the Health and Safety Code, and the Water Code. The project owner shall comply with any reporting and inspection requirements set forth by the DHS and Lahontan RWQCB to fulfill statutory requirements. The project owner shall submit copies to the CPM of all correspondence between themselves and DHS or the Lahontan RWQCB within 10 days of receipt or submittal.

SOIL & WATER-6 The project owner shall treat all process wastewater streams with a zero liquid discharge (ZLD) system that results in a residual solid waste. The solid waste shall be disposed of in the appropriate class of landfill suitable for the constituent concentrations in the waste. Surface or subsurface disposal of process wastewater from the Victorville 2 is prohibited. The project owner shall operate the ZLD system in accordance with a ZLD management plan approved by the CPM. The ZLD management plan shall include the following elements:

- A. A flow diagram showing all water sources and wastewater disposal methods at the power plant;
- B. A narrative of expected operation and maintenance of the ZLD system;
- C. A narrative of the redundant or back-up wastewater disposal method to be implemented during periods of ZLD system shutdown or maintenance;
- D. A maintenance schedule;

- E. A description of on-site storage facilities and containment measures;
- F. A table identifying influent water quality; and
- G. A table characterizing the constituent concentrations of the solid waste or brine and specifying the permit limits of the selected landfill.

The Victorville 2 operation and wastewater production shall not exceed the treatment capacity of the ZLD system or result in an industrial wastewater discharge.

Verification: At least 60 days prior to the start of commercial operation, the project owner shall submit to the CPM evidence that the final design of the ZLD system has the approval of the CBO. At least 60 days prior to the start of commercial operation, the project owner shall prepare a ZLD management plan for review and approval by the CPM. The ZLD management plan shall be updated by the project owner and submitted to the CPM for review and approval if a change in water source or infrastructure is needed.

In the annual compliance report, the project owner shall submit a status report on operation of the ZLD system, including dates and length of disruptions, maintenance activities performed, volumes of interim wastewater streams stored on site, monthly volumes of residual salt cake or brine generated, and results of at least one annual sampling of the waste solids or brine comparing the constituent concentrations to the permit limits of the landfill. The annual compliance report shall contain an evaluation of whether the ZLD is being operated within the parameters described in the ZLD management plan. The ZLD management plan shall be updated by the project owner if the CPM has determined it is necessary based on the project owner's annual compliance report(s).

SOIL & WATER-7 The project owner shall use tertiary treated recycled water supplied from the City of Victorville's Recycled Water System as its primary source for process water including cooling, fire protection and landscape irrigation. Annual usage (excluding fire suppression) shall not exceed 3,150 acre-feet. Prior to the use of recycled water for commercial operation, the project owner shall install and maintain metering devices as part of the water supply and distribution system or verify that the water supplier will provide adequate metering or billing to the project owner to document project water use as required to monitor and record in gallons per day the total volume(s) of water supplied to the Victorville 2 from this water source. The metering devices shall be operational for the life of the project.

Verification: The project owner shall prepare an annual summary, which will include the monthly range and monthly average of daily water usage in gallons

per day, and total water used on a monthly and annual basis in acre-feet. For years subsequent to the initial year of operation, the annual summary will also include the yearly range and yearly average water use by source. For calculating the total water use, the term “year” will correspond to the date established for the annual compliance report submittal.

At least sixty (60) days prior to commercial operation of the Victorville 2, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational for the recycled water supply and distribution system.

SOIL & WATER-8 The project owner shall use potable water supplied from Victorville Water (city of Victorville) for potable purposes and emergency backup for process needs in case of interruptions in the recycled water supply. The annual uses of groundwater shall not exceed four acre-feet/year for potable purposes and 45 acre-feet/year for backup process needs. The project owner shall monitor and record in gallons per day the total volume(s) of groundwater supplied to the Victorville 2 for domestic use. Prior to the use of potable water for commercial operation, the project owner shall either install and maintain metering devices as part of the water supply and distribution system or verify that the water supplier will provide adequate metering or billing to the project owner to document project water use as required. The metering devices shall be operational for the life of the project. The city (or Victorville Water) shall pre-purchase 45 acre-feet of SWP water through MWA’s ‘Claim Program’ to be used for recharge and storage in the Alto Subarea groundwater basin and dedicated for use as emergency backup water supply for project process needs. To the extent groundwater is used for process needs during the life of the project, additional water shall be pre-purchased to restore 45 acre-feet of banked water in the Alto subarea groundwater basin

Verification: The project owner shall prepare an annual summary of the amount of water used for potable purposes. The summary shall include the monthly range and monthly average of daily water usage in gallons per day, and total water used on a monthly and annual basis in acre-feet. For years subsequent to the initial year of operation, the annual summary will also include the yearly range and yearly average water use. For calculating the total water use, the term “year” will correspond to the date established for the annual compliance report submittal. The annual summary shall also provide a chronological accounting of the SWP water pre-purchased for recharge and storage in the Alto Subarea groundwater basin and used as emergency backup water supply for project process needs. If the pre-purchase of SWP water for Victorville 2 is part of a larger program that the city is conducting to meet its overall potable water demands, the city shall provide the accounting for the overall program with the water dedicated and banked for Victorville 2 clearly

delineated to show additions and withdrawals to the 45 acre-feet dedicated for project emergency backup supply.

At least sixty (60) days prior to commercial operation of Victorville 2, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational. Potable water use reporting may be based on metering or billings from the supplier.

At least sixty (60) days prior to commercial operation of Victorville 2, the project owner shall submit to the CPM evidence that it has pre-purchased a minimum of 45 acre-feet of SWP water to be used for recharge and storage in the Alto Subarea groundwater basin and dedicated for use as emergency backup water supply for project process needs.

SOIL & WATER-9 Prior to site mobilization the project owner shall obtain a Permit for Industrial Wastewater Discharge and comply with the wastewater discharge limitations, pretreatment requirements, peak flow restrictions, dewatering discharges, payment of fees, and monitoring and reporting requirements of Victor Valley Water Reclamation Authority as applicable for construction.

Verification: At least 30 days prior to Victorville 2 site mobilization, the project owner shall provide the CPM with a copy of its Permit for Industrial Wastewater Discharge from Victor Valley Water Reclamation Authority as applicable for construction. The CPM shall be notified in writing within 10 days of any reported non-compliance with Victor Valley Water Reclamation Authority's discharge requirements, including corrective measures for non-compliance and the results of implementing those

C. CULTURAL RESOURCES

The potential for impacts to cultural resources depends upon whether such resources are present and whether they would actually be encountered during project development and construction activities. Cultural resource materials such as artifacts, structures, or land modifications reflect the history of human development. Certain places that are important to Native Americans or local national/ethnic groups are also considered valuable cultural resources. Analysis in this topic area pertains to the structural and cultural evidence of human development in the project vicinity, as well as appropriate mitigation measures should cultural resources be disturbed by project excavation and construction.

The term “cultural resource” is used broadly to include the following categories of resources: buildings, sites, structures, objects, and historic districts. When a cultural resource is determined to be significant, it is eligible for inclusion in the California Register of Historic Resources (CRHR). (Pub. Resources Code, § 5024.1; Cal. Code Regs., tit. 14 § 4850 et seq.) An archaeological resource that does not qualify as an historic resource may be considered a “unique” archaeological resource under CEQA. (See Pub. Resources Code, § 21083.2.) In addition, structures older than 50 years (or less if the resource is deemed exceptional) can be considered for listing as significant historic structures.

Under the CEQA Guidelines, a resource is generally considered to be historically significant if it meets the criteria for listing in the CRHR. In addition to being at least 50 years old, a resource must meet at least one of the following four criteria: 1) is associated with events that have made a significant contribution to the broad patterns of our history; 2) is associated with the lives of persons significant in our past; 3) embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values; 4) has yielded, or may be likely to yield, information important to history or prehistory. (Pub. Resources Code § 5024.1.)

In addition, historical resources must also possess integrity of location, design, setting, materials, workmanship, feeling, and association. [Cal. Code Regs., tit. 14, § 4852(c); Pub. Resources Code §§ 5020.1 (j) or 5024.1.] Even if a resource is not listed or determined to be eligible for listing in the CRHR, CEQA allows the lead agency to make a determination as to whether the resource is a historical resource.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Setting and History

The proposed Victorville 2 project is located in the Mojave Desert, in the city of Victorville, in San Bernardino County, California. It is situated to the north of the Southern California Logistics Airport (SCLA), the former George Air Force Base, and is approximately 3.5 miles east of U.S. Highway 395 and 0.5 mile west of the Mojave River. The proposed plant would be constructed on three areas (the main plant site and two laydown areas) totaling approximately 388 acres, of which approximately 338 acres would have to be graded. Construction laydown would require temporary use of two separate areas consisting of 20 and 30 acres, located south and west of the project site, respectively. The Victorville 2 project area is near the Victor Valley Wastewater Reclamation Authority (VWRA) treatment plant, located to the southeast along the Mojave River. The area within and surrounding the proposed Victorville 2 plant is primarily undeveloped, with the exception of SCLA to the south and a few residential structures within the southernmost portions. (Ex. 200, p. 4.3-5.)

The earliest generally accepted period of human occupation in the Mojave Desert dates from approximately 10,000 to 8,000 years B.P (before the present) in the early Holocene. The cultural unit associated with the early Holocene in the region of the proposed Victorville 2 project is termed the Lake Mojave Complex. To date, no sites with affinities to the Lake Mojave Complex are known from the immediate Victorville 2 project vicinity, probably due to geological processes

which eroded ancient land forms or buried them under alluvium. (Ex. 200, pp. 4.3-7 - 4.3-8.)

From the Victorville area downstream along the Mojave River to the Mojave Sink, in the vicinity of the proposed Victorville 2 project, lived the Desert Serrano, as recorded by Father Francisco Garcés, the first European traveler through the region in 1776. In March, 1776, Father Garcés encountered a “ranchería of 40 souls” along the Mojave River in the vicinity of Barstow and Daggett. Four decades later, in 1819, Father Joaquín Nuez traveled down the Mojave River. From the Garcés and Nuez accounts, it appears that aboriginal settlements along the Mojave River contained up to 70 persons and were situated approximately ten miles apart. (Ex. 200, pp. 4.3-9 - 4.3-10.)

The Desert Serrano were brought into the Spanish missions or assimilated by other native groups during the early-to-mid-1800s and had ceased to exist as a distinct social group prior to the turn of the twentieth century. U.S. Army Captain John C. Frémont in 1844 traveled along the river during his second expedition through the West. Near present-day Daggett, Frémont encountered a party of Mojave Indians who informed him that they had formerly lived along the river in the region. Local accounts indicate that Native Americans described as Paiute were living in the Newberry Springs area as late as 1904. Victorville had an Indian community, which, in the census of 1900, was composed of 44 individuals. This community was in existence from before 1880 until 1960, when the last resident died. (Ex. 200, pp. 4.3-10 - 4.3-11.)

Beginning in the later 1840s and 1850s, wagon roads for overland travel—first from Santa Fe, New Mexico and later between Utah and the Mormon colony in San Bernardino—passed through the proposed Victorville 2 project region. The earliest historic-period settlements along the Mojave River were the supply stations that were established along overland wagon roads during the 1840s. Many other settlements in the project area had their origins as stations along the

railroads. The first railroad through the desert was built by the Southern Pacific (SP) between Mojave and Needles in 1882. The Burlington Northern Santa Fe Railroad operates the line today. (Ex. 200, pp. 4.3-13 to 4.3-14.)

South of the project site, the city of Victorville had its origins as a rail stop known as Victor, renamed Victorville in 1901. The original map of Victor was recorded in 1886. Initially, Victorville's economy arose from commercial enterprises meeting the industrial and consumer needs of the region's mines, and on the railroad system that served the mines. In 1907, the Santa Fe Railway expanded its facilities at the Victor rail stop in 1885, with a new building. (Ex. 200, p. 4.3-17.)

Victorville's early twentieth-century economy was greatly advanced by the Golden State Cement Company in nearby Oro Grande (1908), and the Southwestern Portland Cement Company in Victorville (1916-17). By 1922, the Golden State Cement Company plant was producing 1,000 barrels of cement per day, while the latter firm claimed an output of 2,500 barrels of cement per day. (Ex. 200, pp. 4.3-17 - 4.3-18.)

Victorville's growing prosperity during the 1910s was given a boost when, in 1913, it was prominently positioned along the National Old Trails Highway, a transcontinental road extending from Chicago to Los Angeles. In 1926, the National Old Trails Road was designated as U.S. Highway 66, or Route 66, as the highway more popularly came to be known.

Another development had an impact on the local economy: the establishment in 1941 of the Air Corps Advanced Flying School on Victorville Army Airfield, a 2,200-acre site six miles outside of town completed on May 18, 1943. In 1951 the facility was renamed George Air Force Base (AFB). In 1989, closure of the base was announced, and it was deactivated in 1992. The following year it was annexed into the city of Victorville and renamed the Southern California Logistics Airport (SCLA). (Ex. 200, p. 4.3-18.)

One of the earliest high-voltage transmission lines in the area was the Control-San Bernardino 115-kV transmission line, constructed by the Southern Sierras Power Company in 1911-1913 and ultimately acquired by Southern California Edison Company (SCE) in 1964. Originally known as the “Tower Line” and spanning 238 miles from Bishop to San Bernardino, it was the world’s longest power line at the time it was built. The patrol road parallel to the transmission line was subsequently purchased by the federal government and reconstructed as U.S. Highway 395. The line is still in use, and is located approximately three miles west of the proposed Victorville 2 power plant location. Approximately 10 miles of this line would be used as Segment 3 of the project transmission line. (Ex. 200, p. 4.3-14.)

The San Bernardino-Boulder 115-kV transmission was built by Southern California Edison in 1930-1931 to provide power for the construction of Hoover Dam. When the dam was completed in 1936, the power flowed from its hydroelectric turbines back to the Los Angeles basin. The Victor-to-Barstow 33-kV line, constructed in 1918 to transport power from the Tower Line circuit to customers in Barstow, is a wood-pole line. These and other regional power corridors converge at the Victor Substation, nine miles south of the proposed Victorville 2 power plant location. (Ex. 200, p. 4.3-14.)

2. Cultural Resources

An archaeological records search was conducted at the California Historical Resources Information System (CHRIS,) San Bernardino County Archaeological Information Center (SBAIC) at the San Bernardino County Museum, Redlands, to identify all known cultural resources located within a ¼-mile radius of the entire proposed project area, and within a one mile radius of the Victorville 2 site. The records search sought to identify previous cultural resource surveys,

archaeological sites, and historic structures within the study area that could be impacted by the proposed project. (Ex. 32, pp. 18-19; Ex. 200, p. 4.3-19.)

Additional information was obtained from the California State Office of Historic Preservation's (OHP) website for California Historical Landmarks (CHL), the National Park Service's (NPS) database for National Register of Historic Places (NRHP), and the NPS database for National Natural Landmarks. In addition, the Applicant reviewed the USGS 1956 "Helendale" and 1934 "Barstow" topographic quadrangles for the presence of historic structures and properties. Staff also reviewed the USGS 1934 Barstow quadrangle and the 1902 and 1942 Hesperia quadrangles, along with a set of aerial photographs of the area taken in 1955, provided by WSA in response to Data Requests 30 and 31. Along with the record search, the Applicant contacted various agencies on May 12, 2006, and inquired about historic or other cultural resources within or adjacent to the Victorville 2 project area. (Ex. 32, pp. 37-38.)

Correspondence between WSA and the Native American Heritage Commission (NAHC) took place between February 24, 2006, and June 19, 2006, which resulted in a list of six Native American contacts. (Ex. 32, p. 39; App. C.) WSA sent information about the proposed project to the six Native Americans on the NAHC-provided list, asking them to provide information on any cultural resources that could be affected by the proposed project. (Ex. 32, App. C.) Telephone calls were also made to the six listed contacts. (Ex. 32, p. 39.)

On May 18, 2007, Energy Commission staff also requested from the NAHC a Sacred Lands database search and on May 21, 2007, Staff received from the NAHC a list of 10 contacts. Staff sent letters informing the 10 Native American individuals or groups about the proposed Victorville 2 project on June 13, 2007. (Ex. 200, p. 4.3-20)

Britt Wilson of the Morongo Band of Mission Indians, John Valenzuela of the San Fernando Band of Mission Indians, and Goldie Walker of the Serrano Band of Indians all requested to be contacted if any human remains or cultural material were to be encountered during construction. (Ex. 200, p. 4.3-38)

The survey of most of the main project plant site resulted in the identification of 22 historic-period archaeological sites, all of them newly recorded. None of the archaeological sites identified on the portion of the main project plant site that was surveyed are considered eligible for listing in the CRHR, because they do not meet the criteria for CRHR eligibility, or lack integrity, or both. Because an archaeological survey remains to be done on a small portion (five parcels) of the main plant site, it is possible that significant archaeological sites may yet be found when the Applicant gains access to these parcels and completes a survey of them. (Ex. 200, pp. 4.3-31 - 4.3-32)

No archaeological sites were identified in Laydown Area 1. A single site was identified in Laydown Area 2 was evaluated as ineligible for listing in the CRHR because it lacked integrity and did not have the potential to yield information important in history. (Ex. 200, p. 4.3-32)

No archaeological sites had been previously recorded in the survey areas for the corridors proposed for reclaimed water and wastewater pipelines, and for the three segments of the transmission line. The Applicant's surveyors recorded four new archaeological sites within the linear corridor; a prehistoric campsite composed of one mortar bowl fragment and two chert flakes, and three are historic-period refuse scatters. When recorded, the prehistoric site was described as highly disturbed, with a deep erosional cut through the middle of the site, leading the recorders to conclude that the artifacts were in a secondary context which did not represent an intact cultural deposit. (Ex. 32, p. 23) Segment 2 and 3 contain sites of scattered refuse, old roads or rail lines. The Applicant's

evaluation of these sites was that none met the criteria for CRHR eligibility, and all lacked integrity of location and materials. (Ex. 200, p. 4.3-32)

The Applicant identified a total of 15 potentially historic standing structures within the project areas for the proposed Victorville 2 project. Of these 15 resources, five are previously recorded transmission lines, one is an associated substation, one is a fence line, and eight are historic-period buildings. The northern linear corridor contains one of the historic dwellings and the main project plant site contains the other seven recorded historic structures that are all simple dwellings with outbuildings from the middle-to-late 1950s, and none meets the criteria for CRHR eligibility. According to the Applicant's architectural historian, none of the buildings is associated with significant events or persons in history, and none has architectural significance. Of the 15 potentially historic standing structures located on or near the proposed Victorville project impact areas, four are potentially historically significant. They are all transmission-related infrastructure, and all are located along the proposed transmission line. (Ex. 200, pp. 4.3-34 - 4.3-37)

3. Potential Impacts

Direct impacts to cultural resources are those associated with project development, construction, and co-existence. Construction usually entails surface and subsurface disturbance of the ground, and direct impacts to archaeological resources may result from the immediate disturbance of the deposits, whether from vegetation removal, vehicle travel over the surface, earth-moving activities, excavation, or demolition of overlying structures. Construction can have direct impacts on historic standing structures when those structures must be removed to make way for new structures or when the vibrations of construction impair the stability of historic structures nearby. New structures can have direct impacts on historic structures when the new structures are stylistically incompatible with their neighbors and the setting, and when the new structures

produce something harmful to the materials or structural integrity of the historic structures, such as emissions or vibrations. (Ex. 200, p. 4.3-40)

Generally speaking, indirect impacts to archaeological resources are those which may result from increased erosion due to site clearance and preparation, or from inadvertent damage or outright vandalism to exposed resource components due to improved accessibility. Similarly, historic structures can suffer indirect impacts when project construction creates improved accessibility and vandalism or greater weather exposure becomes possible. (*id.*)

The evidence shows that only one significant prehistoric archaeological site, the Mojave Footprints Site, previously recorded and partially excavated by archaeologists, could be impacted by the construction activities of the proposed project. That site could have subsurface deposits extending beyond its known location. These would not be evident during surface surveys and, if present, could be impacted by transmission line support pole foundation excavation on Segment 1. Mitigation measures required in Conditions of Certification **Cul-1** through **Cul-10**, and, in particular, **Cul-6**, will ensure that there are no impacts to undiscovered resources and ensure that known resources are not impacted in an unanticipated manner. Measures we adopt for mitigating impacts to previously unknown archaeological resources during the construction of the plant and linear facilities would also serve to mitigate impacts from repairs occurring during operation of the plant. (Ex. 200, p. 4.3-47)

Four potentially significant standing structures were identified from earlier surveys or the applicant's current project-related survey. Two of them would not be impacted by the proposed project, and one would be impacted, but not significantly. The Kramer-to-Victor 115-kV transmission line, however, would undergo a direct, significant impact from the proposed project's transmission line construction, and this significant impact will require mitigation as mandated in Conditions of Certification **Cul-8** and **Cul-9**. (*id.*)

No significant ethnographic resources, either previously recorded or newly disclosed in communications with Native Americans, were identified in the vicinity of the project. Consequently, the project would have no direct significant impacts on ethnographic resources. (*id.*)

Neither the applicant nor staff identified any indirect impacts to any identified cultural resources in the impact areas of the proposed project, so no mitigation measures for indirect impacts would be required for any class of cultural resources. (*id.*)

4. Cumulative Impacts

A cumulative impact refers to a proposed project's incremental effects considered over time and together with those of other, nearby, past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project. (Pub. Resources Code § 21083; Cal. Code Regs., tit. 14, §§ 15064(h), 15065(c), 15130, and 15355.)

Two projects must be considered as contributing to potential cumulative impacts on the cultural resources of the area in which the Victorville 2 power plant project would be located. One is the VVWRA. The other is actually a series of projects planned by the City of Victorville to develop the SCLA as a major multimodal cargo distribution center. The SCLA Specific Plan Area, covering the area south of the proposed Victorville 2 power plant project, will eventually include such large-scale projects as building manufacturing/distribution facilities, building intermodal/multimodal rail facilities, building air cargo facilities and hangars, building aviation maintenance facilities, and building commercial office and related technology facilities. (Ex. 13, pp. 6.8-11, 6.8-18; Ex. 200, p. 4.3-49)

Cumulative impacts to cultural resources in the project vicinity could occur if the VVWRA, the SCLA Specific Plan projects, and the proposed Victorville 2 project, had or would have impacts on cultural resources that, considered together, would be significant. Cultural resources studies have been conducted for the VVWRA and for a number of projects at the SCLA. These studies have identified cultural resources and potential project impacts to these cultural resources, and the impacts have either been avoided or mitigated to a less than a significant level. (Ex. 200, p. 4.3-49)

Proponents of future projects can mitigate impacts to as yet undiscovered subsurface archaeological sites to less than significant levels by requiring construction monitoring, evaluation of resources discovered during monitoring, and avoidance or data recovery for resources evaluated as significant. Impacts to human remains can be mitigated by following the protocols established by state law in Public Resources Code section 5097.98. Since the impacts from the Victorville 2 project would be mitigated to below the level of significance by the project's compliance with Conditions of Certification **CUL-1** through **CUL-10**, and since similar protocols can be applied to other current and future projects in the area, the evidence does not identify any incremental effects of the Victorville 2 project that would be cumulatively considerable, when viewed in conjunction with other projects. (*id.*)

The impacts to cultural resources created by the Victorville 2 project were analyzed by expert witnesses and found to be not significant, with the implementation of conditions of certification providing for identification, evaluation, and avoidance or mitigation of impacts to significant cultural resources discovered during the construction and operation of the project.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, the Commission makes the following findings and reaches the following conclusions:

1. Cultural resources exist in the general project area.
2. Construction activities associated with the Victorville 2 project and related facilities present a potential for adverse impacts to cultural resources.
3. The potential for impacts to unknown cultural resources may not be discovered until subsurface soils are exposed during excavation and construction.
4. The project owner will obtain the services of a Native American monitor to observe ground disturbance activities in areas where Native American artifacts are discovered.
5. The project owner will provide a cultural resources monitor with authority to halt construction if unknown resources are discovered.
6. The Victorville 2 project is compatible with the historical setting of the area.
7. The potential for cumulative impacts to cultural resources is insignificant.
8. The mitigation measures contained in the Conditions of Certification below ensure that any direct, indirect, or cumulative adverse impacts to cultural resources resulting from project-related activities will be insignificant.

The Commission therefore concludes that with implementation of the Conditions of Certification below, the project will conform with all applicable laws, ordinances, regulations, and standards relating to cultural resources.

CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of ground disturbance (ground disturbance includes “preconstruction site mobilization”; “construction ground disturbance”; and “construction grading, boring and trenching,” as defined in the General Conditions for this project), the project owner shall obtain the services of a Cultural Resources Specialist (CRS), and one or more alternate CRSs, if

alternates are needed. The CRS shall write or supervise the writing of the Cultural Resources Treatment Plan (CRTP) and manage all monitoring, mitigation, curation, and reporting activities required in accordance with the Conditions of Certification (Conditions). The CRS may elect to obtain the services of Cultural Resource Monitors (CRMs) and other technical specialists, if needed, to assist in monitoring, mitigation, and curation activities. The project owner shall ensure that the CRS makes recommendations regarding the eligibility for listing in the California Register of Historical Resources (CRHR) of any cultural resources that are newly discovered or that may be affected in an unanticipated manner. No ground disturbance shall occur prior to CPM approval of the CRS and alternate CRSs, unless such activities are specifically approved by the CPM. Approval of a CRS may be denied or revoked for non-compliance on this or other projects.

CULTURAL RESOURCES SPECIALIST

The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and backgrounds conform to the U.S. Secretary of Interior's Professional Qualifications Standards, as published in the Code of Federal Regulations, 36 CFR Part 61. In addition, the CRS shall have the following qualifications:

1. The CRS's qualifications shall be appropriate to the needs of the project and shall include a background in anthropology, archaeology, history, architectural history, or a related field;
2. At least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California; and
3. At least one year of experience in a decision-making capacity on cultural resources projects in California and the appropriate training and experience to knowledgably make recommendations regarding the significance of cultural resources.

The resumes of the CRS and alternate CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS/alternate CRS on referenced projects and demonstrate to the satisfaction of the CPM that the CRS/alternate CRS has the appropriate training and experience to implement effectively the Conditions of Certification.

CULTURAL RESOURCES MONITORS

CRMs shall have the following qualifications:

1. A BS or BA degree in anthropology, archaeology, historical archaeology or a related field and one year experience monitoring in California; or

2. An AS or AA degree in anthropology, archaeology, historical archaeology or a related field, and four years experience monitoring in California; or
3. Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historical archaeology or a related field, and two years of monitoring experience in California.

CULTURAL RESOURCES TECHNICAL SPECIALISTS

The resume(s) of any additional technical specialists, e.g., historical archaeologist, historian, architectural historian, and/or physical anthropologist, shall be submitted to the CPM for approval.

Verification:

1. At least 180 days prior to the start of ground disturbance, the project owner shall submit the resume for the CRS, and alternate(s) if desired, to the CPM for review and approval.
2. At least 10 days prior to a termination or release of the CRS, or within 10 days after the resignation of a CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval. At the same time, the project owner shall also provide to the proposed new CRS the AFC and all cultural resources documents, field notes, photographs, and other cultural resources materials generated by the project. If there is no alternate CRS in place to conduct the duties of the CRS, a previously approved monitor may serve in place of a CRS so that construction may continue up to a maximum of three days without a CRS. If cultural resources are discovered then construction will remain halted until there is a CRS or alternate CRS to make a recommendation regarding significance.
3. At least 90 days prior to ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resource monitoring required by this Condition. If additional CRMs are obtained during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to the qualifications of the CRMs, at least five days prior to the CRMs beginning on-site duties.
4. At least 10 days prior to beginning specialist tasks, the resume(s) of any additional technical specialists shall be provided to the CPM for review and approval.
5. At least 120 days prior to the start of ground disturbance, the project owner shall confirm in writing to the CPM that the approved CRS will be available for onsite work and is prepared to implement the cultural resources Conditions.

CUL-2 Prior to the start of ground disturbance, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the AFC, data responses, and confidential cultural resources reports for the project. The project owner shall also provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting cultural features or materials. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless such activities are specifically approved by the CPM.

If construction of the project would proceed in phases, maps and drawings not previously provided shall be submitted prior to the start of each phase. Written notification identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

At a minimum, the CRS shall consult weekly with the project construction manager to confirm area(s) to be worked during the next week, until ground disturbance is completed.

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases.

Verification:

1. At least 135 days prior to the start of ground disturbance, the project owner shall provide the AFC, data responses, and confidential cultural resource documents to the CRS, if needed, and the subject maps and drawings to the CRS and CPM. The CPM will review submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.
2. If there are changes to any project-related footprint, revised maps and drawings shall be provided at least 15 days prior to start of ground disturbance for those changes.
3. If project construction is phased, if not previously provided, the project owner shall submit the subject maps and drawings 15 days prior to each phase.
4. On a weekly basis during ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, e-mail, or fax.

5. Within five days of identifying changes, the project owner shall provide written notice of any changes to scheduling of construction phase.

CUL-3 Prior to the start of ground disturbance, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by or under the direction of the CRS, to the CPM for review and approval. The CRMMP shall be provided in the Archaeological Resource Management Report (ARMR) format, and, per ARMR guidelines, the author's name shall appear on the title page of the CRMMP. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each CRM, and the project owner's on-site construction manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless such activities are specifically approved by the CPM. The CPM-approved CRMMP may be adapted to produce the required CRTP.

The CRMMP shall include, but not be limited to, the following elements and measures:

1. A proposed general research design that includes a discussion of archaeological research questions and testable hypotheses specifically applicable to the project area, and a discussion of artifact collection, retention/disposal, and curation policies as related to the research questions formulated in the research design. A prescriptive treatment plan may be included in the CRMMP for limited resource types. A refined research design will be prepared for any resource where data recovery is required.
2. The following statement included in the Introduction: "Any discussion, summary, or paraphrasing of the Conditions in this CRMMP is intended as general guidance and as an aid to the user in understanding the Conditions and their implementation. The Conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the Conditions in the CRMMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in Appendix A."
3. Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the pre-construction survey, ground disturbance, construction, and post-construction analysis phases of the project.
4. Identification of the person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships

between project construction management and the mitigation and monitoring team.

5. A description of the manner in which Native American observers or monitors will be included, the procedures to be used to select them, and their role and responsibilities.
6. A description of all impact-avoidance measures (such as flagging or fencing), to prohibit or otherwise restrict access to sensitive resource areas that are to be avoided during construction and/or operation, and identification of areas where these measures are to be implemented. The description shall address how these measures would be implemented prior to the start of construction and how long they would be needed to protect the resources from project-related effects.
7. A statement that all cultural resources encountered shall be recorded on a Department of Parks and Recreation (DPR) 523 forms and mapped and photographed. In addition, all archaeological materials retained as a result of the archaeological investigations (survey, testing, data recovery) shall be curated in accordance with the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, into a retrievable storage collection in a public repository or museum.
8. A statement that the project owner will pay all curation fees and a copy of an agreement with, or other written commitment from, a curation facility to accept artifacts from this project. Any agreements concerning curation will be retained and available for audit for the life of the project.
9. A statement that the CRS has access to equipment and supplies necessary for site mapping, photography, and recovery of any cultural resource materials that are encountered during pre-construction survey and ground disturbance and cannot be treated prescriptively.
10. A description of the contents and format of the Cultural Resource Report (CRR), which shall be prepared according to ARMR guidelines.

Verification:

1. At least 90 days prior to the start of ground disturbance, the project owner shall submit the subject CRMMP to the CPM for review and approval. Ground disturbance may not commence until the CRMMP is approved, unless specifically approved by the CPM.

2. At least 30 days prior to the start of ground disturbance, a letter shall be provided to the CPM indicating that the project owner agrees to pay curation fees for any materials collected as a result of the archaeological investigations (survey, testing, data recovery).

CUL-4 The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall be written by or under the direction of the CRS and shall be provided in the ARMR format. The CRR shall report on all field activities including dates, times and locations, findings, samplings, and analyses. All pre-construction survey reports, DPR 523 forms, and additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as appendices to the CRR.

If the project owner requests a suspension of construction activities, then a draft CRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM for review and approval on the same day as the suspension/extension request. The draft CRR shall be retained at the project site in a secure facility until construction resumes or the project is withdrawn. If the project is withdrawn, then a final CRR shall be submitted to the CPM for review and approval at the same time as the withdrawal request.

Verification:

1. Within 90 days after completion of ground disturbance (including landscaping), the project owner shall submit the CRR to the CPM for review and approval. If any reports have previously been sent to the CHRIS, then receipt letters from the CHRIS or other verification of receipt shall be included in an appendix.
2. Within 10 days after CPM approval, the project owner shall provide documentation to the CPM confirming that copies of the CRR have been provided to the SHPO, the CHRIS, and the curating institution, if archaeological materials were collected.
3. Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft CRR to the CPM for review and approval.

CUL-5 Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment at the project site and on the linear facilities. The training shall be prepared by the CRS, may be conducted by any member of the archaeological team, and may be presented in the form of a video. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The

training may be discontinued when ground disturbance, including landscaping, is completed. The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Samples or visuals of artifacts that might be found in the project vicinity;
3. Instruction that the CRS, alternate CRS, and CRMs have the authority to halt construction in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS;
4. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the CRS or CRM, and that redirection of work would be determined by the construction supervisor and the CRS;
5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. An acknowledgement form signed by each worker indicating that they have received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

Verification:

No ground disturbance shall occur prior to implementation of the WEAP program, unless such activities are specifically approved by the CPM.

1. At least 30 days prior to the beginning of pre-construction site mobilization, the CRS shall provide the training program draft text and graphics and the informational brochure to the CPM for review and approval, and the CPM will provide to the project owner a WEAP Training Acknowledgement form for each WEAP-trained worker to sign.
2. On a monthly basis, until ground disturbance is completed, the project owner shall provide in the Monthly Compliance Report (MCR) the WEAP Training Acknowledgement forms of workers at the project site and on the linear facilities who have completed the training in the prior month and a running total of all persons who have completed training to date.

CUL-6 The project owner shall ensure that the CRS, alternate CRS, or CRMs monitor full time all ground disturbance full time at the project site, along the routes of the linear facilities, and at laydown areas or other ancillary areas, to ensure there are no impacts to undiscovered resources and to ensure that known resources are not impacted in an unanticipated manner. The project owner shall ensure that archaeological monitors

observe with particular care the wastewater pipeline trench excavation in the vicinity of site VV2 Site 23 and the foundation excavations of steel monopoles on Segment 1 in the vicinity of known significant site CA-SBR-72 and along Segment 1 where it runs along the river terrace.

Full-time archaeological monitoring for this project shall be the archaeological monitoring of all earth-moving activities on the construction site or along the linear facility routes for as long as the activities are ongoing. Full-time archaeological monitoring shall require at least one monitor per excavation area where machines are actively moving earth. If an excavation area is too large for one monitor to effectively observe the earth-moving, one or more additional monitors shall be retained to observe the area.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The research design in the CRMMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered.

On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of non-compliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended. The CRS or alternate CRS shall report daily to the CPM on the status of cultural resources-related activities at the construction site, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM.

The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resource monitoring and mitigation activities with Energy Commission technical staff (Staff).

Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions.

Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM.

The project owner shall obtain a Native American monitor to monitor ground disturbance in any areas where Native American artifacts are discovered. The project owner shall ensure that a Native American monitor observes the wastewater pipeline trench excavation where the pipeline runs along the Mojave River terrace in the vicinity of VV2 Site 23 and the foundation excavations of steel monopoles on Segment 1 in the vicinity of known significant site CA-SBR-72 and along Segment 1 where it runs along the river terrace. Contact lists of concerned Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that shall be monitored. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor.

During and after construction, the project owner shall fulfill the requests received from Native American tribes or groups to be notified if artifacts are found and to receive copies of all archaeological records and reports resulting from the project.

Verification:

1. At least 30 days prior to the start of preconstruction site mobilization, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log. While monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS.
2. Daily, as long as no cultural resources are found, the CRS shall provide a statement that “no cultural resources over 50 years of age were discovered” to the CPM as an e-mail, or in some other form acceptable to the CPM. If the CRS concludes that daily reporting is no longer necessary, a letter or e-mail providing a detailed justification for the decision to reduce or end daily reporting shall be provided to the CPM for review and approval at least 24 hours prior to reducing or ending daily reporting.

3. At least 24 hours prior to implementing a proposed change in monitoring level, documentation justifying the change shall be submitted to the CPM for review and approval.
4. No later than 30 days following the discovery of any Native American cultural materials, the project owner shall submit to the CPM copies of letters of transmittal of requested information to the Chairperson of those Native American tribes or groups who requested it. Additionally, the project owner shall submit to the CPM copies of letters of transmittal for all subsequent responses to Native American requests for notification, consultation, and reports and records.

CUL-7 The project owner shall grant authority to halt construction to the CRS, alternate CRS, and the CRMs in the event of a discovery. Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event cultural resources over 50 years of age or, if younger, considered exceptionally significant are found, or impacts to such resources can be anticipated, ground disturbance shall be halted or redirected in the immediate vicinity of the discovery sufficient to ensure that the resource is protected from further impacts. The halting or redirection of construction shall remain in effect until the CRS has visited the discovery, and all of the following have occurred:

1. The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), the action taken (i.e. work stoppage or redirection), a recommendation of eligibility, and recommendations for mitigation of any cultural resources discoveries, whether or not a determination of significance has been made.
2. The CRS has completed field notes, measurements, and photography for a DPR 523 primary form. The "Description" entry of the DPR 523 form shall include a recommendation on the significance of the find. The project owner shall submit completed forms to the CPM.
3. The CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have been completed.

Verification:

1. At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt construction activities in the vicinity of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.
2. Completed DPR 523 forms shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever the CRS decides is more appropriate for the subject cultural resource.

CUL-8 Prior to the dismantling of the towers of the Kramer-to-Victor 115-kV transmission line, the project owner shall obtain the services of an architectural historian. The project owner shall provide the CPM with the name and resume of the architectural historian. No ground disturbance shall occur prior to CPM approval of the architectural historian, unless specifically approved by the CPM.

The resume for the architectural historian shall include names and telephone numbers of contacts familiar with the architectural historian's work and all information needed to demonstrate that the architectural historian has the following qualifications:

1. meets the Secretary of Interior's Professional Standards for architectural history;
2. has at least three years experience in recording twentieth-century industrial structures;
3. has completed at least one recordation project within the past five years involving coordination with the National Park Service's Heritage Documentation Program (HDP);

Verification:

1. At least 150 days prior to the dismantling of the towers of the Kramer-to-Victor 115-kV transmission line, the project owner shall submit the name and resume of the selected architectural historian to the CPM for review and approval.
2. At least 120 days prior to the dismantling of the towers of the Kramer-to-Victor 115-kV transmission line, the project owner shall confirm in writing to the CPM that the approved architectural historian is available for onsite work and provide a date by which the architectural historian will undertake the HAER documentation of the Kramer-to-Victor 115-kV transmission line

CUL-9 Prior to the dismantling of the towers of the Kramer-to-Victor 115-kV transmission line, the owner shall ensure that the architectural historian prepares HAER documentation of the historic context and historic setting of the resource, and documentation of each kind of original tower that is present. The owner shall ensure that the architectural historian consults with the HDP, in Washington, D. C., and complies with HDP guidance on the extent and content of documentation appropriate for these structures, as contributing elements of a historic district that is potentially eligible for the National Register of Historic Places, and on the format and materials to be used in the documentation. To provide for the contingency that the HDP may require additional information after reviewing the architectural historian's draft documentation, the project owner shall ensure that the architectural historian over-records (for example, "brackets" all photographs; takes duplicate photogrammetric readings; measures everything; makes copies daily of all field notes and logs and retains them in a separate location), in the field, those physical aspects (e.g., measurements, photographs, and photogrammetry) of the structures that will not be accessible after the structures have been dismantled. No Segment 3 ground disturbance shall occur prior to the completion by the architectural historian of the over-recording, in the field, of the towers and historic setting and the submission to and approval by the CPM of the draft HAER documentation of the Kramer-to-Victor 115-kV transmission line, unless specifically allowed by the CPM.

Verification:

1. At least 90 days prior to the dismantling of the towers of the Kramer-to-Victor 115-kV transmission line, the project owner shall submit to the CPM a letter or memorandum from the architectural historian detailing the scope of the HDP-recommended documentation of the resource.
2. At least 60 days prior to the dismantling of the towers of the Kramer-to-Victor 115-kV transmission line, the project owner shall provide a copy of the draft HAER documentation of the resource to the CPM for review and approval.
3. Within 90 days after completion of ground disturbance (including landscaping) the project owner shall include in an appendix to the CRR copies of the transmittal letters for the submission of copies of the final HAER documentation of the towers of the Kramer-to-Victor 115-kV transmission line to the California State Library and to at least two local libraries in San Bernardino County, and a copy of the letter of acceptance of the final HAER documentation by the Library of Congress.

CUL-10 Prior to site mobilization or construction-related ground disturbance within 100 feet around, and inclusive of, those areas in the project's footprint not previously surveyed for archaeological resources, the project owner shall submit , for CPM approval a Cultural Resources Treatment Plan (CRTP), completed by or under the direction of the CRS. The

submitted CRTP shall include the proposed personnel, methods, and research framework for archaeological resources identification and evaluation activities applicable to the unsurveyed portions of the certified project and shall also provide a plan for presence/absence testing for subsurface archaeological deposits, if needed, and a plan for avoidance or data recovery in the event that significant archaeological resources are identified during survey, including a discussion of artifact collection, retention/disposal, and curation policies as related to the research questions formulated in the research framework. The project owner shall ensure that all tasks under the CRTP are undertaken by or under the direction of the CRS, who shall employ persons for these tasks having the minimum qualifications of a CRM.

The project owner shall ensure that the archaeological resources survey and site recording on DPR 523 Primary and detail forms, as specified in the approved CRTP, are completed and shall provide for CPM approval a technical report, in ARMR format, on activities carried out under the CRTP, with any required DPR 523 site forms included in an appendix.

If the CPM, on the basis of the submitted technical report, requires archaeological testing, the project owner shall ensure that the required testing is completed, per CPM-approved CRTP, and shall submit a revised and resubmitted technical report for CPM approval, including the personnel, methods, and findings of the archaeological testing and updated DPR 523 site forms in an appendix.

If avoidance, data recovery, or other mitigation is also required by the CPM, the project owner shall ensure that these requirements are completed, per CPM-approved CRTP, and shall submit , for CPM approval, a final technical report on all activities carried out under the CRTP, including personnel, methods, and findings, with all updated DPR 523 site forms in an appendix.

No ground disturbance shall occur within 100 feet around, and inclusive of, those areas in the project's footprint not previously surveyed for archaeological resources prior to completion of tasks identified in the CRTP or additionally required by the CPM, and prior to CPM approval of the submitted final technical report on all activities carried out under the CRTP, unless specifically approved by the CPM.

Verification:

1. At least 60 days prior to the start of construction-related ground disturbance within 100 feet around, and inclusive of, those areas in the project's footprint not previously surveyed for cultural resources, the project owner shall submit the CRTP for CPM approval.

2. At least 30 days prior to ground disturbance within 100 feet around, and inclusive of, those areas in the project's footprint not previously surveyed for cultural resources, the project owner shall submit for CPM approval a final technical report (in ARMR format) that provides personnel, methods, findings, and completed DPR 523 forms for all cultural resources activities completed pursuant to the CRTP.

D. GEOLOGY AND PALEONTOLOGY

This section reviews the project's potential impacts on significant geological and paleontological resources. It also evaluates whether project-related activities could result in exposure to geological hazards, whether the facility can be designed and constructed to avoid any such hazards, and whether geologic or mineralogical resources are present. Geologic hazards include ground movement which could result from: faulting seismicity, liquefaction, dynamic compaction, hydrocompaction, subsidence, expansive soils, landslides, tsunamis, and seiches. The analysis in the record also examines paleontological resources which could be affected by the project including whether minerals, fossilized remains, or trace remnants of prehistoric plants or animals are present. The parties did not dispute any matters in this topic.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Victorville 2 site is located in the southwestern end of the Mojave Desert geomorphic province, north of the San Bernardino Mountains. Several structural features related to regional strike-slip faulting and compression tectonics are present within 25 miles of both the power plant site and the transmission line route. The most common are northwest-striking right-lateral strike-slip faults. The San Bernardino segment of the San Andreas and associated sub-parallel structures nearest to the project facilities are located 24 miles to the southwest of the plant site and 8.5 miles southwest of the southern terminus of the transmission line. Other strike-slip faults with Holocene displacement include the Helendale Fault, located 8 miles to the northeast of the plant site, the Lenwood Fault, located 22.5 miles northeast of the plant site, and the Llano Fault, located 24 miles southeast of the plant site and 21.5 miles from the nearest segment of the transmission line. (Ex. 200, p. 5.2-6.)

1. Site Conditions

The Project site is relatively flat with a very gentle slope to the north-northeast. It is underlain by Quarternary Alluvium predominately composed of sand, silty sand, and sand with silt. The nearest body of water is the Mojave River, located approximately 0.5 mile east of the site. Groundwater at the site is estimated to be approximately 150 feet deep. (Ex. 11, p. 6.6-3; Ex. 26.) Quarternary older alluvium in the Victorville and Hesperia area has been proven to contain abundant terrestrial mammals and is assigned a high paleontological sensitivity. Alluvial fan deposits are also assigned a high sensitivity. (Ex. 15, p. 6.10-8.) The topography of the Project's liner facility routes is relatively flat with features underlain by Quarternary Alluvium composed of sand, and silty sand. The closest major fault to the Project site is the Helendale-South Lockhardt fault, approximately 8 miles from the site. This fault has the potential for a maximum estimated site intensity shaking of IX, which equates with violent shaking and heavy damage to structures. (Ex.11, p. 6.6-5, Table 6.6-3.)

Several structural features related to regional strike-slip faulting and compressional tectonics are present within 25 miles of both the power plant site and the transmission line route. The main segment, which has observed Holocene surface displacement, has historic movement recorded in approximately 1812 and in 1857. The Mirage Valley Fault, the south end of which is located 9.5 miles to the west of the plant site, offsets units that indicate movement between 10,000 and 700,000 years ago (pre-Pleistocene). The Blake Ranch Fault, the south end of which is located 10 miles to the northwest of the plant site, offsets units that indicate movement between 700,000 and 1.6 million years ago. (Ex. 200, pp. 5.2-4, 5.2-6.)

2. Geology Analysis

A preliminary geotechnical Investigation was conducted on the plant site by Applicant's consultant in 2006. (Ex. 26.) The majority of the investigative drilling

encountered relatively homogeneous interbeds of poorly graded sand, poorly graded sand with silt, and silty sand containing generally low percentages of fines. The maximum depth of drilling was 76.5 feet, and ground water was not encountered. (*Id.*)

Both Staff and Applicant included in their testimony and analysis a list of the laws, ordinances, regulations, and standards pertaining to geologic and paleontological resources which apply to the Project. (Ex. 11, p. 6.6-1; Ex. 15, p. 6.10-1; Ex. 200, p. 5.2-2.) The California Building Standards Code (CBSC) and CBC (2007) provide geotechnical and geological investigation and design guidelines, which engineers must follow when designing a facility. As a result, the criteria used to assess the significance of a geologic hazard include evaluating each hazard's potential impact on the design and construction of the proposed facility. (Ex. 200, p. 5.2-6.)

Staff's analysis of direct and indirect impacts from the Project determined that ground shaking and structure settlement represent the main geologic hazards at this site. These potential hazards can be effectively mitigated through facility design by incorporating the recommendations contained in the Applicant's project geotechnical report. (Ex. 26.) Conditions of Certification **GEN-1**, **GEN-5**, and **CIVIL-1** in the **FACILITY DESIGN** section of this decision should also mitigate these impacts to less than significant levels. (Ex. 200, p. 5.2-7.)

No viable geologic or mineralogical resources are known to exist within 1 mile of the Victorville 2 site, the laydown area, or transmission line route. Sediments of the ancestral Mojave River and the Victorville Fan, which represent nearly all soils that will be potentially impacted by project grading and trenching, have a high paleontological sensitivity. The possibility of impacting significant paleontological resources in the ancestral Mojave River deposits is high because numerous paleontological sites are located within 1 mile of the transmission line route from mileposts 4 to 8.5. The potential of impacting significant

paleontological resources in the Victorville Fan is considered to be high on the plant site, along the proposed sewer and reclaimed water pipeline routes, and on the transmission line route north of Milepost 4 because of the presence of a recorded fossil site from the Shoemaker Gravel within 2 miles north of the plant site. (*Id.*)

The evidence includes analysis of Project risks due to faulting and seismicity, noting that the Project site is located within Seismic Zone 4, as illustrated in the 2007 edition of the California Building Code. Applicant will incorporate the appropriate estimated peak horizontal ground acceleration (PGA) from a seismic event as part of its design criteria for the Project. (Ex. 11, p. 6.6-13; Ex. 200, p. 5.2-10.) Liquefaction is a condition where cohesionless soil may lose shear strength because of a sudden increase in pore water pressure, thus making the surface unstable for structures. . However the results of testing of dense soils below 10 feet, coupled with a deep ground water table of at least 77 feet, indicates no potential for liquefaction during an earthquake. (*Id.*)

Dynamic compaction of compressible soils can result from vibration associated with seismic events. The vibration causes a decrease in soil volume, resulting in the settling of structures. The Project is likely to have low-to-moderate potential for dynamic compaction during an earthquake. To reduce the effects of seismically induced settlement or dynamic compaction, the mitigation methods include deep foundations (driven piles; drilled shafts) for severe conditions, geogrid reinforced fill pads for moderate severity and over-excavation and replacement for low risk areas. This last technique can also serve to mitigate risks of hydrocompaction. Over-excavation/replacement, mat foundations or the use of deep foundations can also mitigate and risk of subsidence. The risk of damage to the Project from expansive soils, landslides, flooding, and seiches is negligible or non-existent. (Ex. 11, p. 5.2-12.)

3. Paleontology Analysis

The assessment of paleontological resources by the parties was based on a comprehensive literature review, museum records search and fieldwork at the plant site and along the routes of the Project's linear facilities. The work of Applicant and Staff evaluated applicable LORS, evaluated potential Project-related impacts on identified paleontological resources, and recommended Conditions to mitigate potential impacts. (Ex. 15, p. 6.10-1; Ex. 200, p. 5.2-1.)

The witnesses for the parties did not identify any geological resources at either the project location or at the proposed utility connections. Two aggregate pits, located 1 mile east (Brynam Pit) and 2.5 miles northeast (Brynam Road Pit) of the plant site, are designated as significant aggregate deposits. These pits have produced sand and gravel deposits from younger alluvium on the east bank of the Mojave River for use as concrete aggregate and asphalt concrete sand. No known petroleum or gas fields exist within 45 miles of the project site. Given the soil profile developed through geotechnical exploration (Ex. 26), there is low potential for this site to have economically valuable sand and gravel, or other mineral deposits.

Sediments of the ancestral Mojave River and the Victorville Fan, which represent nearly all soils to be impacted by project grading and trenching, have a high paleontological sensitivity. While no paleontological resources were found during the geotechnical investigations, the potential for the project to impact significant paleontological resources is high in these ancestral Mojave River deposits, located between mileposts 4 to 8.5 on the transmission line route. In addition, the potential to impact significant paleontological resources in the Victorville Fan is high on the plant site, along the proposed sewer and reclaimed water pipeline routes, and on the transmission line route north of Milepost 4. (Ex. 200, p. 5.2-13.)

Numerous paleontological sites are documented within several miles of the proposed Victorville 2 project. The most important is the Victorville Mammoth, which is located within 1,500 feet east of Milepost 5.3 on the transmission line route. The vertebrate fossils from the ancestral Mojave River sediments in the Victorville area include remains of shrew, giant ground sloth, jack rabbit, cotton tail, antelope ground squirrel, pocket gopher, pocket mouse, kangaroo rat, desert wood rat, cotton rat, meadow vole, short-faced bear, Scott's horse, long-limbed giant camel, and llama. The San Bernardino County Museum collection contains many fossils of these types from the Victorville area. The majority of the remains within 1 mile of the plant site and transmission line were present between mileposts 4 and 8.5 of the transmission line route. (*Id.*)

The occurrence of fossil remains in the Victorville Fan is less common. However, specimens of horse and mammoth (*Mammuthus columbi*) were recovered from the Shoemaker Gravel several miles to the north of the plant site, just south of Bryman. This site has also produced remains of extinct horse, extinct bison, and camel from sites further away, mostly to the east.

Significant paleontological resources have been documented in Pleistocene sediments within 1 mile of the project site. Therefore, all materials below what could be a localized veneer of Holocene alluvium may exhibit a high sensitivity rating for significant paleontological resources.

Construction of the proposed project will include grading, foundation excavation, and utility trenching. The evidence shows there is a high probability of encountering paleontological resources on the plant site, along buried pipelines connecting to the plant, and on the transmission line route from Milepost 0 to Milepost 8.5 based upon the soils profile, SVP assessment criteria, and the near surface occurrence of sensitive soils. However, the potential to encounter significant paleontological resources along the transmission line south of

Milepost 8.5 is considered to be low because of a scarcity of known fossil sites in the area. (*Id.*)

Excavations for ancillary facilities, new pipelines, and on-site excavations deeper than 3 feet may be more likely to encounter high sensitivity materials, although sensitive materials could still occur near the surface. Proposed Conditions of Certification **PAL-1** to **PAL-7** will mitigate any of the paleontological resource impacts discussed above, to less than significant levels. Essentially, these Conditions require a worker education program, in conjunction with the monitoring of earthwork activities by qualified professional paleontologists, or paleontological resource specialists (PRS). Earthwork would be halted any time that potential fossils are recognized by either the paleontologist or any worker, followed by evaluation by a professional and recovery, if appropriate.

We find that implementation of the Conditions of Certification should actually result in a net gain to the science of paleontology. This is because fossils that would not otherwise be discovered will be collected, identified, studied, and properly curated. The Conditions of Certification require a paleontological resource specialist to produce a monitoring and mitigation plan, conduct worker training, and perform monitoring.

The Applicant will be able to comply with applicable LORS, provided that the proposed Conditions of Certification are followed. The design and construction of the project should have no adverse impacts upon geologic, mineralogical, and paleontological resources. We will ensure compliance with applicable LORS through adoption of the proposed Conditions of Certification, listed below.

No important paleontological resources were observed either on the site itself or along the transmission line route during the paleontological field survey conducted for the AFC. However, since the proposed Victorville 2 site, as well as pipeline and transmission line construction, will include significant amounts of

grading, foundation excavation, pile driving, and utility trenching, the evidence shows a high likelihood that paleontological resources will be encountered during such activities in fluvial and alluvial materials below Holocene sediments north of Milepost 8.5. Proposed Conditions of Certification **PAL-1** to **PAL-7** are designed to mitigate paleontological resource impacts to less than significant levels.

FINDINGS AND CONCLUSIONS

Based on the uncontroverted evidence of record, we make the following findings and reach the following conclusions:

1. The project is located in Seismic Zone 4.
2. The project will be designed to withstand earthquake shaking in accordance with the requirements for Seismic Zone 4 established in the California Building Code.
3. No significant geologic or mineralogical resources have been discovered in the immediate project area as a result of recent surveys.
4. Although there are no known paleontological resources on the site, such resources are likely to be discovered during project construction.
5. The Conditions of Certification ensure that activities associated with construction and operation of the project will cause no significant adverse impacts to geological or paleontological resources.

We therefore conclude that the project will not cause any significant adverse direct, indirect, or cumulative impacts to geological, mineralogical, or paleontological resources and that with implementation of the Conditions of Certification below, the project will conform with all applicable laws, ordinances, regulations, and standards.

CONDITIONS OF CERTIFICATION

PAL-1 The project owner shall provide the Compliance Project Manager (CPM) with the resume and qualifications of its Paleontological Resource Specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, the project owner shall obtain prior CPM approval of the replacement PRS. The project owner shall keep resumes on file for qualified Paleontological Resource Monitors (PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM.

The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology (SVP) guidelines of 1995. The experience of the PRS shall include the following:

1. Institutional affiliations, appropriate credentials, and college degree;
2. Ability to recognize and collect fossils in the field;
3. Local geological and biostratigraphic expertise;
4. Proficiency in identifying vertebrate and invertebrate fossils; and
5. At least three years of paleontological resource mitigation and field experience in California and at least one year of experience leading paleontological resource mitigation and field activities.

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems necessary on the project. Paleontological Resource Monitors (PRMs) shall have the equivalent of the following qualifications:

- BS or BA degree in geology or paleontology and one year of experience monitoring in California; or
- AS or AA in geology, paleontology, or biology and four years' experience monitoring in California; or
- Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

Verification: At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work.

At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project, stating that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor's beginning on-site duties.

Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.

PAL-2 The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction laydown areas, and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and plan and profile drawings for the utility lines would be acceptable for this purpose. The plan drawings should show the location, depth, and extent of all ground disturbances and be at a scale of 1 inch = 40 feet to 1 inch = 100 feet range. If the footprint of the project or its linear facilities change, the project owner shall provide maps and drawings reflecting those changes to the PRS and CPM.

If construction of the project proceeds in phases, maps and drawings may be submitted prior to the start of each phase. A letter identifying the proposed schedule of each project phase shall be provided to the PRS and CPM. Before work commences on affected phases, the project owner shall notify the PRS and CPM of any construction phase scheduling changes.

At a minimum, the project owner shall ensure that the PRS or PRM consults weekly with the project superintendent or construction field manager to confirm area(s) to be worked the following week, and until ground disturbance is completed.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the PRS and CPM.

If there are changes to the footprint of the project, revised maps and drawings shall be provided to the PRS and CPM at least 15 days prior to the start of ground disturbance.

If there are changes to the scheduling of the construction phases, the project owner shall submit a letter to the CPM within five days of identifying the changes.

PAL-3 The project owner shall ensure that the PRS prepares, and the project owner submits to the CPM for review and approval, a paleontological resources monitoring and mitigation plan (PRMMP) to identify general and specific measures to minimize potential impacts to significant paleontological resources. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting, and sampling activities, and may be modified with CPM approval. This document shall be used as the basis of discussion when on-site decisions or changes are proposed. Copies of the PRMMP shall reside with the PRS, each monitor, the project owner's on-site manager, and the CPM.

The PRMMP shall be developed in accordance with the guidelines of the Society of Vertebrate Paleontology (SVP, 1995) and shall include, but not be limited, to the following:

1. Assurance that the performance and sequence of project-related tasks, such as any literature searches, pre-construction surveys, worker environmental training, fieldwork, flagging or staking, construction monitoring, mapping and data recovery, fossil preparation and collection, identification and inventory, preparation of final reports, and transmittal of materials for curation will be performed according to PRMMP procedures;
2. Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and the conditions of certification;
3. A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units;
4. An explanation of why, how, and how much sampling is expected to take place and in what units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained units;
5. A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed plan for monitoring and sampling;

6. A discussion of procedures to be followed in the event of a significant fossil discovery, halting construction, resuming construction, and how notifications will be performed;
7. A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;
8. Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meet the Society of Vertebrate Paleontology's standards and requirements for the curation of paleontological resources;
9. Identification of the institution that has agreed to receive data and fossil materials collected, requirements or specifications for materials delivered for curation, and how they will be met, and the name and phone number of the contact person at the institution; and
10. A copy of the paleontological conditions of certification.

Verification: At least 30 days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an affidavit of authorship by the PRS, and acceptance of the PRMMP by the project owner evidenced by a signature.

PAL-4 Prior to ground disturbance and for the duration of construction activities involving ground disturbance, the project owner and the PRS shall prepare and conduct weekly CPM-approved worker environmental awareness program (WEAP) training for the following workers: project managers, construction supervisors, foremen and general workers involved with or who operate ground-disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved WEAP training. Worker WEAP training shall consist of an initial in-person PRS training during the project kick-off, for those mentioned above. Following initial training, a CPM-approved video or in-person training may be used for new employees. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or other areas of interest or concern. No ground disturbance shall occur prior to CPM approval of the WEAP, unless specifically approved by the CPM.

The WEAP shall address the possibility of encountering paleontological resources in the field, the sensitivity and importance of

these resources, and legal obligations to preserve and protect those resources.

The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Good quality photographs or physical examples of vertebrate fossils for project sites containing units of high paleontological sensitivity;
3. Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery or unanticipated impact to a paleontological resource;
4. Instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM;
5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. A WEAP certification of completion form signed by each worker indicating that he/she has received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

Verification: At least 30 days prior to ground disturbance, the project owner shall submit the proposed WEAP, including the brochure, with the set of reporting procedures for workers to follow.

At least 30 days prior to ground disturbance, the project owner shall submit the script and final video to the CPM for approval if the project owner is planning to use a video for interim training.

If the owner requests an alternate paleontological trainer, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval prior to installation of an alternate trainer. Alternate trainers shall not conduct training prior to CPM authorization.

In the monthly compliance report (MCR), the project owner shall provide copies of the WEAP certification of completion forms with the names of those trained and the trainer or type of training (in-person or video) offered that month. The MCR shall also include a running total of all persons who have completed the training to date.

PAL-5 The project owner shall ensure that the PRS and PRM(s) monitor consistent with the PRMMP all construction-related grading, excavation, trenching, and augering in areas where potential fossil-

bearing materials have been identified, both at the site and along any constructed linear facilities associated with the project. In the event that the PRS determines full-time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM.

The project owner shall ensure that the PRS and PRM(s) have the authority to halt or redirect construction if paleontological resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows:

1. Any change of monitoring from the accepted schedule in the PRMMP shall be proposed in a letter or email from the PRS and the project owner to the CPM prior to the change in monitoring and will be included in the monthly compliance report. The letter or email shall include the justification for the change in monitoring and be submitted to the CPM for review and approval.
2. The project owner shall ensure that the PRM(s) keep a daily monitoring log of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time.
3. The project owner shall ensure that the PRS notifies the CPM within 24 hours of the occurrence of any incidents that are out of compliance with respect to the paleontological conditions of certification. Such incidents would include, but are not limited to failure to notify the PRS prior to starting deep excavations or a failure to report a fossil discovery. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the conditions of certification.
4. For any significant paleontological resources encountered, either the project owner or the PRS shall notify the CPM within 24 hours, or Monday morning in the case of a weekend event where construction has been halted because of a paleontological find.

The project owner shall ensure that the PRS prepares a summary of monitoring and other paleontological activities to be placed in the monthly compliance reports. The summary will include the name(s) of PRS or PRM(s) active during the month, general descriptions of training and monitored construction activities, and general locations of excavations, grading, and other activities. A section of the report shall include the geologic units or subunits encountered descriptions of samplings within each unit, and a list of identified fossils. A final section of the report will address any issues or concerns about the project

relating to paleontological monitoring, including any incidents of non-compliance or any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the report shall include an explanation in the summary as to why monitoring was not conducted.

Verification: The project owner shall ensure that the PRS submits the summary of monitoring and paleontological activities in the MCR. When feasible, the CPM shall be notified 10 days in advance of any proposed changes in monitoring different from the plan identified in the PRMMP. If there is any unforeseen change in monitoring, the notice shall be given as soon as possible prior to implementation of the change.

PAL-6 The project owner, through the designated PRS, shall ensure that all components of the PRMMP are adequately performed including collection of fossil materials, preparation of fossil materials for analysis, analysis of fossils, identification and inventory of fossils, the preparation of fossils for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during project construction.

Verification: The project owner shall maintain in the compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. The project owner shall maintain these files for a period of three years after project completion and approval of the CPM-approved paleontological resource report (see **PAL-7**). The project owner shall be responsible for paying any curation fees charged by the museum for fossils collected and curated as a result of paleontological mitigation. A copy of the letter of transmittal submitting the fossils to the curating institution shall be provided to the CPM.

PAL-7 The project owner shall ensure preparation of a Paleontological Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of the ground-disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information, and submit it to the CPM for review and approval.

The report shall include, but is not limited to, a description and inventory of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the PRS that project impacts to paleontological resources have been mitigated below the level of significance.

Verification: Within 90 days after completion of ground-disturbing activities, including landscaping, the project owner shall submit the PRR under confidential cover to the CPM.

**Certification of Completion
Worker Environmental Awareness Program
Victorville 2 Hybrid Power Project (07-AFC-2)**

This is to certify these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on cultural, paleontological, and biological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the monthly compliance report.

No.	Employee Name	Title/Company	Signature
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Cultural Trainer: _____ Signature: _____ Date: ____/____/____

PaleoTrainer: _____ Signature: _____ Date: ____/____/____

Biological Trainer: _____ Signature: _____ Date: ____/____/____

E. WASTE MANAGEMENT

The Victorville 2 project will generate hazardous and non-hazardous wastes during its construction and operation. The record contains an evaluation of the proposed waste management plans and the mitigation measures intended to reduce the risks and environmental impacts associated with handling, storing, and disposing of these wastes. This evaluation includes a review of proposed solid and hazardous waste management methods to ascertain whether they meet applicable standards for waste reduction and recycling. It also includes a discussion of whether these wastes would significantly impact available treatment and disposal sites.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project owner will prepare Waste Management Plans for both the construction and the operation of the project. Each plan will describe the waste stream management methods planned. Condition of Certification **WASTE-6** requires that these plans be submitted to the CPM and applicable local agencies prior to site preparation and plant operation, respectively.

1. Existing Contamination

The project site is located immediately north of the site of the former George Air Force Base, now known as the Southern California Logistics Airport (SCLA). The footprint of the power plant would require the grading of approximately 338 acres in order to provide a usable area of 275 acres for the power block and solar field. Construction laydown would also require temporary use of two separate areas consisting of 20 and 30 acres each. The proposed project site, laydown areas, pipeline areas, and transmission line corridors are all located in areas of predominantly undeveloped land that is generally characterized as native desert landscape. One occupied rural residence and areas of abandoned structures and

vehicles currently exist on the proposed power plant and solar array property. (Ex. 200, p. 4.13-7.)

A draft Phase I ESA for the proposed project site, dated June 2006, was prepared by ENSR Corporation. The presence of TCE-impacted groundwater near the VVWRA treatment plant was identified as a Recognized Environmental Condition (REC) associated with Segment 1 of the proposed transmission line corridor. The potential for hazardous materials or wastes associated with the abandoned structures and vehicles observed on the main project site may represent an area of concern.

Because the original project Phase I ESA was prepared in June 2006, and the entirety of the property has not yet been fully assessed, we adopt Condition of Certification **WASTE -1** which requires the Applicant to conduct an updated Phase I ESA, according to the most recent ASTM standards, that more fully identifies the potential wastes and impacts associated with areas not previously accessible, as well as any existing structures, vehicles, or debris found on the site. The updated Phase I must also include a visual inspection of the grounds and area around the structures and abandoned vehicles and an evaluation of the potential for asbestos, lead-based paint, mercury (from abandoned vehicles, switches, etc.), or other hazardous substance releases in the area. The updated Phase I ESA must be submitted to both the Energy Commission and the appropriate DTSC office not less than 60 days prior to the planned start of project construction.

2. Construction Impacts and Mitigation

Site preparation and construction of the proposed generating plant and associated facilities would last approximately 24 months and would generate both nonhazardous and hazardous wastes in solid and liquid forms. (Ex. 21, p. 6.16-10.) Before construction can begin, the project owner would be required to

develop and implement a Construction Waste Management Plan per Condition of Certification **Waste-6**.

Non-hazardous solid wastes generated during construction would include approximately 4,644 cubic yards of scrap wood, concrete, steel/metal, paper, glass, and plastic waste. (Ex. 21, Table 6.16-5.) All non-hazardous wastes would be recycled to the extent possible and non-recyclable wastes would be collected by a licensed hauler and disposed in a solid waste disposal facility. (Cal. Code Regs., tit. 14, § 17200 et seq.)

Non-hazardous liquid wastes would also be generated during construction, including sanitary wastes, dust suppression drainage, and equipment wash water. Sanitary wastes would be collected in portable, self-contained toilets and pumped periodically for disposal at an appropriate facility. Potentially contaminated equipment wash water will be contained at designated wash areas and transported to a sanitary wastewater treatment facility. Refer to the **SOIL AND WATER RESOURCES** section of this document for more information on the management of project wastewater.

Hazardous wastes anticipated to be generated during construction include empty hazardous material containers, solvents, waste paint, oil absorbents, used oil, oily rags, batteries, and HRSG cleaning wastes. These amounts would be minor and, if handled in the manner identified in the AFC (Ex. 21, section 6.16.3.1) and Applicant responses to data requests (DR 108), would present an insignificant risk to workers, the public, and the environment.

Construction wastes generated by the project will also include wooden transmission line poles. These poles are usually treated with chemical preservatives and may be subject to hazardous waste management requirements. However, the Applicant has noted in data response number 105 that Southern California Edison will be replacing the poles as part of the

transmission line construction. Therefore, the wooden poles would be exempt from management as a hazardous waste according to the “utility” exemption and management requirements provided in Health and Safety Code section 25143.1.5. However, if other “non-utility” treated wood waste is identified in any project-related construction or demolition activities, it may be subject to hazardous waste management according to the Alternative Management Standards for Treated Wood Waste. (Cal. Code Regs., tit., 22, § 67386.1, et seq.)

Both the construction contractor and the project owner/operator could be considered the generator of hazardous wastes at the site during the construction period. The project owner would be required to obtain a unique hazardous waste generator identification number for the site prior to starting construction, pursuant to Condition of Certification **WASTE-4**. Wastes would be accumulated onsite for up to 90 days and then properly manifested, transported and disposed at a permitted hazardous waste management facility by licensed hazardous waste collection and disposal companies. The waste management and disposal methods described in Exhibit 21, section 6.16.3.1 and in the responses to data requests are in accordance with applicable LORS. However, to help ensure ongoing project compliance with LORS, the project owner would be required by Condition of Certification **WASTE-5** to notify the Compliance Project Manager (CPM) whenever the owner receives verbal or written notice that Victorville 2 project construction activities have violated any applicable federal, State, or local waste management LORS, or that an investigation regarding a potential waste management-related violation has been initiated.

Should potentially contaminated soils be encountered during construction excavation, grading or trenching activities for the proposed project, specific handling, disposal, and other precautions may be necessary pursuant to hazardous waste management LORS. We find that Conditions of Certification **WASTE-2** and **WASTE-3** would be adequate to address any soil contamination

contingency that may be encountered during construction of the project and would ensure compliance with LORS. Absent any unusual circumstances, we consider project compliance with LORS to be sufficient to ensure that no significant impacts would occur as a result of project waste management activities.

3. Operation Impacts and Mitigation

The proposed Victorville 2 project would generate non-hazardous and hazardous wastes in both solid and liquid forms under normal operating conditions. Table 6.16-6 of Exhibit 21 gives a summary of the operation waste streams, expected waste volumes and generation frequency, and management methods proposed. Before operations can begin, the project owner would be required to develop and implement an Operations Waste Management Plan pursuant to proposed Condition of Certification **WASTE-7**.

Non-hazardous solid wastes expected to be generated during project operation include routine maintenance wastes such as used air filters, spent demineralizer resins, sand and filter media, and ZLD water treatment solids as well as domestic and office wastes such as office paper, newsprint, aluminum cans, plastic, and glass. All non-hazardous wastes will be recycled to the extent possible, and non-recyclable wastes would be regularly transported offsite to a local solid waste disposal facility. (Ex. 21, p. 6.16-11.)

The ZLD water treatment solids would represent the greatest volume of non-hazardous wastes generated by operation of the facility. At absolute maximum capacity and operation, the plant would generate approximately 14.64 tons of these solids per day. While this appears to be a large volume of waste, it does not exceed the 10 percent significance threshold for impacts to the nearest solid waste disposal facility, which is the Victorville Landfill. (Ex. 21, Table 6.16-4.) However, while the water treatment solids are currently identified as non-

hazardous, the actual composition of the waste is not known at this time. If the water treatment solids contain metals or other toxic constituents above hazardous waste regulatory levels, management as hazardous waste will be required in order to ensure that the solids do not create a significant impact. Therefore, we adopt Condition of Certification **WASTE-8** requiring testing of the water treatment solids to determine waste category and proper disposal requirements.

Certain nonhazardous liquid wastes that would be generated during facility operation are discussed in the **Soil and Water Resources** section of this document. Storm water runoff would be managed in accordance with a Drainage, Erosion, and Sediment Control Plan. General facility drainage will consist of area washdown, sample drains, equipment leakage, and drainage from facility equipment areas and would be discharged to the wastewater collection system.

The Applicant would be the generator of hazardous wastes at this site during operations; thus, the project owner's unique hazardous waste generator identification number obtained during construction would still be required for generation of hazardous waste, pursuant to Condition of Certification **Waste-4**. Hazardous wastes expected to be generated during routine project operation include used hydraulic fluids, oils, greases, oily filters and rags, spent SCR catalyst, waste heat transfer fluid (Therminol), cleaning solutions and solvents, and batteries. In addition, spills and unauthorized releases of hazardous materials or hazardous wastes may generate contaminated soils or materials that may require corrective action and management as hazardous waste. Proper hazardous material handling and good housekeeping practices will help keep spill wastes to a minimum. However, to ensure proper cleanup and management of any contaminated soils or waste materials generated from hazardous materials spills, we adopt Condition of Certification **WASTE-9** requiring the project owner/operator to report, clean-up, and remediate as necessary, any spills or releases equal to or exceeding federal reportable quantities of extremely

hazardous substances, hazardous substances, materials, or waste, and toxic chemicals, in accordance with all applicable federal, state, and local requirements.

4. Impact on Existing Waste Disposal Facilities

Suitable nonhazardous waste disposal sites having adequate remaining capacity, and their tentative closure dates, are identified in Exhibit 21, Table 6.16-4. During construction of the proposed project, approximately 4,644 cubic yards of solid waste will be generated and recycled or disposed in a Class III landfill. (Ex. 21, Table 6.16-5.) The non-hazardous solid wastes generated yearly at Victorville 2 would also be recycled if possible, or disposed in a Class III landfill.

Table 6.16-4 of Exhibit 21 identifies four non-hazardous (Class III) waste disposal facilities that could accept the non-hazardous construction and operation wastes generated by the Victorville 2 project. These Class III landfills are all located in San Bernardino County. The remaining capacity for the four landfills combined is over 164 million cubic yards. The total amount of nonhazardous waste generated from project construction and operation will contribute less than 1 percent of the available landfill capacity. We find that disposal of the solid wastes generated by the Victorville 2 project can occur without significantly impacting the capacity or remaining life of any of these facilities.

Section 6.16.2.2 of Exhibit 21 discusses the two Class I landfills in California: The Clean Harbor Landfill (Buttonwillow) in Kern County, and the Chemical Waste Management Landfill (Kettleman Hills) in Kings County. In total, there is in excess of 15 million cubic yards of remaining hazardous waste disposal capacity at these landfills, with approximately 30 years of remaining operating lifetimes. The Victorville 2 project construction and operation wastes will likely be sent to the Buttonwillow facility. (Ex. 200, p. 4.13-14.)

Hazardous wastes generated during construction and operation would be recycled to the extent possible and practical. Those wastes that cannot be recycled will be transported offsite to a permitted treatment, storage, or disposal facility. The volume of hazardous waste from the Victorville 2 project requiring offsite disposal would not significantly impact the capacity or remaining life of the Class I waste facilities.

5. Cumulative Impacts and Mitigation

We have considered the proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project. As proposed, the quantities of nonhazardous and hazardous wastes generated during construction and operation of the project would add to the total quantities of waste generated in San Bernardino County and in the State of California. Recycling efforts would be prioritized wherever practical, and capacity is available in a variety of treatment and disposal facilities. Therefore, we conclude that the waste generated as a result of the construction and operation of the project would not result in significant cumulative waste management impacts.

FINDINGS AND CONCLUSIONS

Based on the evidence, we find and conclude as follows:

1. The project will generate hazardous and nonhazardous wastes during construction and operation.
2. Hazardous and nonhazardous wastes will be recycled to the extent practical.
3. Wastes which cannot be recycled will be disposed of in appropriate landfills.

4. Disposal of project wastes will not result in significant impacts to existing waste disposal facilities.
5. The Conditions of Certification set forth below and in the **AIR QUALITY** and **SOIL AND WATER RESOURCES** portions of this Decision, as well as waste management practices detailed in the evidentiary record, will reduce potential waste impacts to insignificant levels.

We therefore conclude that the project's construction and operational wastes will be properly managed, and will not create significant direct, indirect, or cumulative impacts and that with implementation of the Conditions of Certification below will ensure that the project complies with all applicable laws, ordinances, regulations, and standards identified.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall prepare an updated Phase I ESA for the following areas of the project site: 1) areas not previously accessible to the Applicant; 2) areas with structures; and 3) areas with evidence of use (such as areas with visible waste dumping, areas occupied by squatters, and areas with abandoned structures or vehicles). The updated Phase I ESA shall be prepared according to the most recent ASTM Phase I standards, and include all of the following:

- An evaluation of the potential for and presence of wastes and hazardous substance releases associated with any residences, abandoned structures, abandoned vehicles, tanks, or dump sites found on the site. This evaluation shall include a visual inspection of the structures and grounds around the structures, vehicles, and associated facilities.
- An evaluation of the potential for asbestos, lead-based paint, mercury (from abandoned vehicles, switches, etc.), or other hazardous substance releases in the area of the residential structures as well as any abandoned structures or vehicles.
- An assessment of whether or not illegal dumping, waste burning, shooting range activities, clandestine drug lab, or other activities on the site may have generated waste or contamination.

- Recommendations for any additional site characterization if possible contamination is identified.

In the event that potential releases are identified or site characterization and sampling is recommended, the project owner shall conduct any additional work required by the CPM prior to starting project construction. Any additional work shall be conducted under the oversight of the CPM and the appropriate regulatory agency with jurisdiction to oversee hazardous substance cleanup at the project site. Project construction shall be delayed as necessary to address any site remediation that may be required.

Verification: The project owner shall submit the updated Phase I ESA to both the Energy Commission CPM and the appropriate DTSC office not less than 60 days prior to the planned start of project construction.

WASTE-2 The project owner shall provide the resume of an experienced and qualified Professional Engineer or Professional Geologist, who shall be available for consultation during site characterization (if needed), demolition, excavation and grading activities, to the CPM for review and approval. The resume shall show experience in remedial investigation and feasibility studies.

The Professional Engineer or Professional Geologist shall be given full authority by the project owner to oversee any earth moving activities that have the potential to disturb contaminated soil.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the resume to the CPM for review and approval.

WASTE-3 If potentially contaminated soil is identified during site characterization, demolition, excavation, or grading at either the proposed site or linear facilities, as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Professional Engineer or Professional Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project owner, representatives of DTSC, and the CPM stating the recommended course of action.

Depending on the nature and extent of contamination, the Professional Engineer or Professional Geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the Professional Engineer or Professional Geologist, significant remediation may be required, the project owner shall contact the representatives of the DTSC and the CPM for guidance and possible oversight.

Verification: The project owner shall submit any final reports filed by the Professional Engineer or Professional Geologist to the CPM within five days of

their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

WASTE-4 The project owner shall obtain a hazardous waste generator identification number from the United States Environmental Protection Agency, pursuant to Title 40, CFR, § 260.10 and § 262.12, prior to generating any hazardous waste during project construction and operation.

Verification: The project owner shall keep a copy of the identification number on file at the project site and provide the number to the CPM in the next Monthly Compliance Report.

WASTE-5 The project owner shall notify the CPM of any verbal or written notification provided by a regulatory agency that Victorville 2 project construction or operation activities have violated any applicable federal, State, or local waste management LORS, waste management permit condition, or that an investigation regarding a potential waste management-related violation has been initiated.

Verification: The project owner shall notify the CPM of any verbal or written notification of any project-related waste management violation or impending investigation within 10 days of receipt of notice. The project owner shall also provide to the CPM copies of the written notices, or records of conversation for verbal notices, and describe what project waste management changes, if any, will be required/initiated to correct any identified waste management violations.

WASTE-6 The project owner shall prepare a Construction Waste Management Plan for all wastes generated during construction of the facility, and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:

- A description of all construction waste streams, including projections of frequency, amounts generated and hazard classifications; and
- Management methods to be used for each waste stream, including temporary onsite storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans.

Verification: The project owner shall submit the Construction Waste Management Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site.

WASTE-7 The project owner shall prepare an Operation Waste Management Plan for all wastes generated during operation of the facility, and shall submit the plan to the CPM for review and approval. The plan shall contain, at a minimum, the following:

- A detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications;
- Management methods to be used for each waste stream, including temporary onsite storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans;
- Information and summary records of conversations with the local CUPA and the DTSC regarding any waste management requirements necessary for project activities. Copies of all required waste management permits, notices, and/or authorizations shall be included in the plan and updated as necessary;
- A detailed description of how facility wastes will be managed, and any contingency plans to be employed, in the event of a unplanned closure or planned temporary facility closure; and
- A detailed description of how facility wastes will be managed and disposed upon closure of the facility.

Verification: The project owner shall submit the Operation Waste Management Plan to the CPM for approval no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary. The project owner shall also document in each Annual Compliance Report the actual volume of wastes generated and the waste management methods used during the year; provide a comparison of the actual waste generation and management methods used to those proposed in the original Operation Waste Management Plan; and update the Operation Waste Management Plan as necessary to address current waste generation and management practices.

WASTE-8 The project owner shall ensure that the ZLD salt cake is tested in accordance with Title 22, CCR, §66262.10 twice the first year of operation, and report the findings to the CPM.

Verification: The project owner shall include the results of salt cake testing in the Annual Compliance Report provided to the CPM. If two consecutive tests, taken six months apart, show that the sludge is non-hazardous, the project owner may apply to the CPM to discontinue testing.

WASTE-9 The project owner shall ensure that all spills or releases equal to or exceeding federal reportable quantities of extremely hazardous substances, hazardous substances, materials, or waste, and toxic chemicals, are reported, cleaned-up, and remediated as necessary, in accordance with all applicable requirements.

Verification: The project owner shall document all unauthorized releases and spills of reportable quantities of hazardous substances, materials, or wastes, and toxic chemicals that: 1) occur on the project facility, solar array, and pipeline and transmission corridor properties during project construction; and 2) occur on the project facility and solar array properties during project operation. (For the purposes of this condition, “federal reportable quantities” refers to those substances and reporting criteria identified in the USEPA’s List of Lists, EPA publication number 550-B-01-003.) The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; amount of contaminated soil/material generated; how release was managed and material cleaned-up; if the release was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies (if any); level of cleanup achieved and actions taken to prevent a similar release or spill; and disposition of any hazardous wastes and/or contaminated soils and materials that may have been generated by the release. Copies of the unauthorized spill documentation shall be provided to the CPM within 30 days of the date the release was discovered.

VII. LOCAL IMPACT ASSESSMENT

The effect of a power plant project on the local area depends upon the nature of the community and the extent of the associated impacts. Technical topics discussed in this portion of the Decision consider issues of local concern including **LAND USE, NOISE AND VIBRATION, SOCIOECONOMICS, TRAFFIC AND TRANSPORTATION, and VISUAL RESOURCES.**

A. LAND USE

The land use analysis focuses on two main issues: (1) whether the project is consistent with local land use plans, ordinances, and policies; and (2) whether the project is compatible with existing and planned uses.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The primary project site is approximately 0.75 miles north of the Southern California Logistics Airport (SCLA) and within the boundaries of the SCLA Specific Plan Area, which is being developed as a major multi-modal regional aviation and rail cargo distribution center. The SCLA Specific Plan Area encompasses the former George Air Force Base (AFB) and more than 3,000 acres to the north and east. The plant site would encompass approximately 275 acres of the 8,703 acres within the SCLA Specific Plan Area boundaries. Land surrounding the project site, and the project site itself, is largely vacant, undeveloped, flat, desert terrain, with widely scattered residences to the west and the Mojave River to the east. The closest residence is a horse ranch located on the north side of Colusa Road, approximately one mile west from the project site boundary. (See **LAND USE Figure 1**, aerial view of site with artist's rendition of project.)

LAND USE - FIGURE 1

Victorville 2 Hybrid Power Project - Aerial View of Project Site with Simulated Project Facilities



The project's proposed transmission route extends south from the plant site approximately 21 miles to the Lugo Substation on the southern edge of Victorville. Segment 1 of the transmission line corridor extends 4.3 miles south of the plant site and connects the project to the existing transmission facilities. Segment 1, along with the project's water, wastewater, and natural gas lines, would be located within the SCLA Specific Plan Area. The remainder of the transmission line route would be along the existing Southern California Edison (SCE) rights-of-way (ROWs), primarily within the city of Victorville boundaries. However, a small portion of the route would be within or immediately adjacent to the boundaries of the nearby cities of Hesperia and Adelanto and unincorporated portions of San Bernardino County. (See **Land Use Figure 2.**)

None of the project sites are zoned Agricultural or designated for agricultural use under the city of Victorville's General Plan or the General Plan of any other jurisdictional authority. In addition, none of the project sites are subject to the restrictions of a Williamson Act contract or used for commercial agricultural purposes. Neither the construction nor operational activities of the proposed project would result in any impacts to existing agricultural operations or foreseeable future agricultural use. Therefore, the proposed project would not result in the conversion of Farmland to non-agricultural use or conflict with existing agricultural zoning or Williamson Act contracts. The project would have no impact with respect to farmland conversion. (Ex. 200, p. 4.5-8)

Additionally, the proposed project would not physically divide an established community. The power plant facilities would be located entirely on land owned or controlled by the city of Victorville, with access to the site and adjacent off-site construction parking and laydown areas from existing roadways or roads planned for construction in conjunction with the power plant and other nearby projects. No existing roadways or pathways would be blocked or removed from service. The new switchyard would be constructed entirely within the primary site boundaries and transmission lines would extend across vacant land or along the existing

SCE rights-of-way and transmission corridors. Reclaimed and backup water supply, wastewater disposal line and natural gas pipeline connections would be undergrounded within or immediately adjacent to the Segment 1 transmission corridor, entirely within the SCLA Community Plan Area boundaries. Neither the transmission nor utility lines would present a new physical barrier within the community.

The proposed project would not conflict with a habitat conservation plan or natural community conservation plan. The proposed project site is not subject to any Habitat or Natural Community Conservation Plan or within the boundaries of any wildlife preserve or critical habitat area.

A project may have a significant environmental impact related to land use if it would have an air quality, noise, public health, or water supply impact on surrounding properties. The evidence of the project's impacts in those areas shows that it would create no significant unmitigated impacts. Therefore the project will not have a significant impact related to land use.

1. Cumulative Impacts

A cumulative impact is created as a result of the combination of the project under consideration together with other existing or reasonably foreseeable projects causing related impacts. Cumulative impacts can result from individually minor but collectively significant impacts taking place over a period of time.

The Victorville 2 project is one of many projects associated with the multi-modal regional aviation and rail cargo distribution center planned for development surrounding the Victorville 2 project site and at other locations within the SCLA Planning Area. The High Desert Power Project, a 678 megawatt (MW) plant with two 130-foot exhaust stacks, is already located within the SCLA Specific Plan Area. (Ex. 200, p. 4.5-22)

The proposed expansion of the Victor Valley Wastewater Reclamation Authority Treatment Plant and the proposed SCLA development projects in the specific plan area are planned land uses, and are therefore not considered significant adverse land use impacts. Thus, the project's land use impacts, when considered in conjunction with these other known or anticipated uses, will not contribute to a significant cumulative adverse impact.

FINDINGS AND CONCLUSIONS

Based on the evidence, we make the following findings and conclusions:

1. The existing zoning in the vicinity of the proposed Victorville 2 project is compatible with the proposed use.
2. The project is consistent with Victorville's existing land use designation, land use plans, and zoning.
3. The project would not disrupt or divide the physical arrangement of an established community.
4. The project would not preclude or unduly restrict existing or planned land uses.
5. The Conditions of Certification ensure that the project will comply with all applicable local land use and environmental mitigation requirements.

We therefore conclude that the Victorville 2 project will not create significant direct, indirect, or cumulative impacts related to land use and will comply with applicable laws, ordinances, regulations, and standards.

CONDITIONS OF CERTIFICATION

LAND-1 The project owner shall design and construct the project in accordance to the standards found in the M Zone ("Industrial") of the Colusa County Code (Colusa County Code, section 4.12) which includes the following:

- No minimum lot size, width, depth, and yard area.
- The maximum height of any building shall not exceed 50 feet.

- Off-street parking and loading spaces shall be provided as stipulated.
- Any visible storage of materials, parts or equipment, other than company vehicles, is not permitted.
- The Colusa County Board of Supervisors approved a use permit to allow 29 project structures to exceed the 100-foot height limit for integral appurtenances necessary for the operation of a permitted use in the M Zone.

Verification: At least sixty (60) days prior to the start of construction, the project owner shall submit to the Compliance Project Manager (CPM) written documentation including evidence of review by the County of Colusa (d.b.a. Colusa County Department of Planning and Building Administration) that the project conforms with the M Zone of the Colusa County Code (Colusa County Code, section 4.12) and the use permit as granted by the Colusa County Board of Supervisors.

LAND-2 The project owner shall comply with the conditions of approval (listed below) adopted by Colusa County Board of Supervisors on September 18, 2007 (county of Colusa) for the General Plan amendment, zone amendment and parcel map conducted for the proposed Colusa Generating Station project, as permitted by the Warren-Alquist Act, ensuring the project's consistency and conformance with the state and local land use planning LORS. The conditions of approval include the following:

- a) The project owner shall file a final parcel map that conforms to the configuration approved by the Colusa County Board of Supervisors. Major revisions to the tentative parcel map as determined by the Colusa County Surveyor shall not occur without prior formal approval by the Colusa County Planning Commission.

The Applicant shall file the final parcel map ("Final Map") with the county of Colusa within two years from the date of the approval of the tentative map by the Colusa County Board of Supervisors, unless waived or extended by the county.

- b) The amendment to the zone district classification from "Exclusive-Agriculture" to "Industrial" on the southern 50-acre portion of the subject property shall only take effect upon the following: 1) the approval of appropriate mitigation measures by the California Energy Commission to address project impacts to the Maxwell Fire Protection District; and, 2) the granting of a license by the California Energy Commission for the Colusa Generating Station project.
- c) The project owner agrees as a condition of issuance and use of the county's general plan amendment, zone amendment, and tentative

parcel map to indemnify and defend the county of Colusa, at project owner's sole cost and expense, in any claim, action or proceeding brought against the county of Colusa within 180-days after the date of issuance of the general plan amendment, zone amendment, and tentative parcel map because of, or resulting from, any preliminary approval or actual issuance, or, in the alternative, to relinquish such issuance and use. Project owner will reimburse the county of Colusa for any damages, court costs and attorney fees which the county of Colusa may be required by a court to pay as a result of such claim, action or proceeding. The county of Colusa shall promptly notify the project owner of any such claim, action, or proceeding and will cooperate in its defense. The county of Colusa may also, at its sole discretion, participate in the defense of any such claim, action, or proceeding but such participation shall not relieve project owner of its obligations under this condition.

The California Energy Commission Compliance Project Manager (CPM) for the project shall be notified of the filing of any claim, action of proceeding brought against the county of Colusa specific to the general plan amendment, zone amendment, and tentative parcel map approved for this project.

Verification: The project owner shall provide written documentation demonstrating the project's compliance with the above identified items and date of completion to the CPM, or if the item is not completed provide the status of the item in the project's Annual Compliance Report.

B. NOISE AND VIBRATION

The construction and operation of any power plant creates noise, or unwanted sound. The character and loudness of this sound, the time of day or night it is produced, and the proximity of the facility to sensitive receptors combine to determine whether a project's noise will cause significant impacts to the environment. Below we evaluate the Victorville 2 project's potential for significant impacts, the effectiveness of measures proposed to reduce those impacts, and determine whether noise produced by project-related activities will be consistent with applicable noise control laws and ordinances.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Setting

Victorville 2 would be located on a 275-acre site north of the Southern California Logistics Airport (SCLA) in the city of Victorville, San Bernardino County, approximately 3.5 miles east of Highway 395. The site and surrounding land are largely vacant. (Ex. 2, § 2.3.1)

The ambient noise regime in the project vicinity consists chiefly of local street traffic, occasional aircraft overflights from the SCLA, off-highway vehicles, wind noise, and bird and coyote sounds. (Ex. 14, § 6.9.2.2) The nearest sensitive noise receptor is a ranch residence approximately one mile west of the project site. (Exhibit 14 § 6.9.2.2; Fig. 6.9-1)

In order to establish a baseline for the comparison of predicted project noise to existing ambient noise, the Applicant has presented the results of an ambient noise survey. (Ex.14 § 6.9.2.2; Table 6.9-3) The survey was performed on May 11 and 12, 2006. The noise survey monitored existing noise levels at the following locations:

- Measuring Location ML1: The southern boundary of the project site, along Colusa Road; and
- Measuring Location ML2: A single home on ranch property approximately one mile west of the project site on Colusa Road. This location was monitored continuously from 11:00 a.m. on May 11, 2006, through 1:00 p.m. on May 12, 2006. Primary noise sources were vehicular traffic and aircraft overflights.

Noise Table 1 summarizes ambient noise measurements. (Ex. 14 § 6.9.2.2; Table 6.9-3.)

**Noise Table 1
Summary of Measured Ambient Noise Levels**

Measurement Locations	Measured Noise Levels, dBA					
	L _{eq}		L ₅₀		L ₉₀ ¹	L _{dn}
	Daytime	Nighttime	Daytime	Nighttime	Nighttime	
ML1 – South boundary of project site	44.1 ²	33.9 ³	35.9 ²	29.9 ³	26.1	47
ML2 – Ranch dwelling to W of site	54.4 ²	38.7 ³	36.6 ²	31.1 ³	27.2	60

¹ calculations of average of four quietest consecutive hours of the nighttime

² calculations of average of 15 daytime hours

³ calculations of average of nine nighttime hours

Having established a baseline noise level for the two receptors, we now consider the noise the project is expected to add to the baseline, both during its construction and during its operation.

2. Construction Impacts and Mitigation

Construction noise is usually considered to be a temporary phenomenon. Construction of Victorville 2 is expected to take 27 months, which is fairly typical of other combined-cycle power plants with respect to schedule, equipment used, and other types of activities. (Ex.14 p. 6.9-8)

The construction of an industrial facility like a power plant is typically noisier than allowable under usual noise ordinances. In order to allow the construction of new facilities, construction noise during certain hours of the day is commonly exempted from local ordinance restrictions. The San Bernardino County Ordinance restricts noisy construction to the hours between 7:00 a.m. and 7:00 p.m. This limit applies both to construction on the northern portion of the site, where solar field construction noise is expected to be quieter, and to the construction of linear facilities such as water, natural gas, and electric transmission lines lying outside the city limits. There are no sensitive receptors near enough to be significantly affected by this noise; adhering to the specified hours of construction will ensure compliance with the county ordinance.

The southern portion of the project site, where the noisier power block construction will take place, lies within the city limits of the city of Victorville. The applicant has predicted power plant construction noise based on generally accepted values. (Ex. 14, Table 6.9-4; Fig. 6.9-2) Aggregate construction noise can be expected to reach levels of 62 to 70 dBA L_{eq} at a distance of 340 feet from the source. Extrapolating this to the nearest receptor, the residence at ML2, one mile away, yields noise levels of 54 dBA L_{eq} (Ex. 14 § 6.9.3.1). No LORS limits the loudness of construction noise within the city of Victorville. In order to avoid annoying the sole residential neighbor, the applicant has offered to limit noisy construction to daytime hours. (Ex. 14, § 6.9.4) We find that this will provide adequate mitigation of construction noise, and adopt Condition of Certification **NOISE-6** to ensure that these hours of construction are adhered to.

To evaluate construction noise impacts, staff compares the projected noise levels to ambient noise levels. Since construction noise typically varies continually with time, it is most appropriately measured by, and compared to, the L_{eq} (energy average) metric.

As described above, aggregate construction noise can be expected to reach levels of 54 dBA L_{eq} at the residence at ML2. Comparing projected noise levels to the ambient noise levels at ML2 (see **Noise Table 2**, below) shows an increase during the daytime of three dBA. Such an increase is barely noticeable and we find it to be insignificant. Increase over nighttime ambient noise levels, however, would be approximately 15 dBA. Since this increase would be clearly audible, and at night when people are sleeping, this would typically be considered to be annoying.

Noise Table 2
Predicted Power Plant Construction Noise Impacts

Receptor	Highest Construction Noise Level ¹ (dBA L_{eq})	Measured Existing Ambient ² (dBA L_{eq})	Cumulative (dBA L_{eq})	Change (dBA)
ML2 – Ranch dwelling to W of site	54	54.4 daytime	57 daytime	+3 daytime
		38.7 nighttime	54 nighttime	+15 nighttime

¹ Source: Ex. 14, § 6.9.3.1.

² Source: Ex. 14, Table 6.9-3; and calculations of average of daytime and nighttime hours.

Condition of Certification **NOISE-6** would restrict noisy construction to between 7:00 a.m. and 7:00 p.m. In the event that actual construction noise should annoy nearby residents, we adopt Conditions of Certification **NOISE-1** and **NOISE-2**, which would establish notification and noise complaint processes requiring the applicant to resolve any problems caused by noise from the project.

3. Linear Facilities

New off-site linear facilities would include a quarter-mile-long natural gas pipeline that would interconnect with the existing Kern River-High Desert lateral adjacent to the southwestern corner of the project site, a 1.5-mile-long potable water supply line from the City of Victorville’s distribution system, a 1.5-mile-long reclaimed water supply connection to the Victor Valley Wastewater Reclamation Authority treatment plant to the southeast of the site, a 1.25-mile-long sanitary

wastewater line to the wastewater plant, and a 21-mile-long connection to the existing SCE Victor Substation south-southwest of the site. (Ex. 1, § 1.1; Ex. 2, §§2.1, 2.4.5.2, 2.4.7.1, 2.4.7.4; Ex. 14, § 6.9.3.1)

The pipelines are all adjacent to the project site, so their construction noise impacts will be similar to those of the power plant itself. The transmission line interconnection passes primarily through undeveloped areas. Construction on linears proceeds rapidly, so no particular area is exposed to noise for more than a few days. Limiting noisy construction to daytime hours should provide adequate mitigation of these impacts. Compliance with this restriction is ensured by Condition of Certification **NOISE-6**.

4. Pile Driving

The record contains no evidence that pile driving would be necessary for construction of Victorville 2. Nonetheless, if pile driving is required for construction of the project, noise from this operation could be expected to reach 104 dBA at a distance of 50 feet and 64 dBA at ML2, the nearest residential receptor. Added to the existing daytime ambient level of 54 dBA L_{eq} , this would combine to produce 64 dBA, an increase of 10 dBA over ambient noise levels. While this would produce a noticeable impact, we find that limiting pile driving to daytime hours, in conjunction with its temporary nature, would result in impacts tolerable to residents. We adopt Condition of Certification **NOISE-6** to ensure that pile driving noise, should it occur, would be limited to daytime hours.

5. Steam Blows

Typically, the loudest noise encountered during construction, inherent in building any project that includes a steam turbine, is created by the steam blows. After erection and assembly of the feed water and steam systems, the piping and tubing comprising the steam path has accumulated dirt, rust, scale, and construction debris such as weld spatter, dropped welding rods, and the like. If

the plant were started up without thoroughly cleaning out these systems, all this debris would find its way into the steam turbine and quickly destroy the machine.

In order to prevent this, before the steam system is connected to the turbine, the steam line is temporarily routed to the atmosphere. Traditionally, high pressure steam is then raised in the heat recovery steam generator, or a temporary boiler, and is allowed to escape to the atmosphere through the steam piping. This flushing action, referred to as a “high pressure steam blow,” is quite effective at cleaning out the steam system. A series of short steam blows, lasting two or three minutes each, is performed several times daily over a period of two or three weeks. At the end of this procedure, the steam lines are connected to the steam turbine, which is then ready for operation.

High pressure steam blows can typically produce noise levels as high as 129 dBA at a distance of 50 feet; this would amount to roughly 89 dBA at ML2, the nearest sensitive receptor. With a silencer installed on the steam blow piping, noise levels are commonly attenuated to 89 dBA at 50 feet; this would yield approximately 49 dBA at ML2.

No LORS would prohibit the noise from an unsilenced high pressure steam blow, but the San Bernardino County ordinance limits noisy construction work like this to the hours between 7 a.m. and 7 p.m. This level of noise, however, would likely be extremely annoying at ML2, even during the daytime. A silenced blow would not and, in fact, would probably be unnoticeable compared to typical daytime ambient noise levels.

A more modern, quieter steam blow process, referred to as low pressure steam blow and marketed under names such as QuietBlow™ or Silentsteam™, is also popular. This method utilizes lower pressure steam or compressed air over a continuous period of 36 hours or so. Resulting noise levels reach about 80 dBA at 100 feet; such a process would yield noise levels of approximately 40 dBA at ML2.

Noise from a low pressure continuous steam blow at ML2, 4 dBA greater than the nighttime ambient background level, would not likely disturb people trying to sleep and would not constitute a significant impact. In order to ensure that steam blow noise does not produce significant adverse impacts, we adopt Condition of Certification **NOISE-7**, below. (Ex. 200, pp 4.6-8 – 4.6-10)

6. Vibration

The only construction operation likely to produce vibration that could be perceived off-site would be pile driving, should it be employed. Vibration attenuates rapidly; it is unlikely that vibration would be perceptible at any appreciable distance from the project site. We therefore find there would be no significant impacts from construction vibration.

7. Worker Effects

The applicant has acknowledged the need to protect construction workers from noise hazards and has recognized applicable LORS that would protect construction workers. (Ex. 14, § 6.9.3.1) To ensure that construction workers are, in fact, adequately protected, we adopt proposed Condition of Certification **NOISE-3**.

8. Operation Impacts and Mitigation

The primary noise sources of Victorville 2 include the gas turbine generators, gas turbine air inlets, heat recovery steam generators and their exhaust stacks, the steam turbine, cooling tower fans, electrical transformers, fuel gas metering equipment, and various pumps and fans. (Ex.14, § 6.9.3.2)

The Applicant performed noise modeling to determine the project's noise impacts on sensitive receptors. (Ex.14, § 6.9.3.2) Project operating noise at ML2 (the nearest noise-sensitive residence, one mile west of the project site) is predicted

to be approximately 39 dBA L_{eq} . This figure complies with the LORS limits of both the City of Victorville and the County of San Bernardino.

Power plant noise is unique. Essentially, a power plant operates as a steady, continuous, broadband noise source, unlike the intermittent sounds that make up the majority of the noise environment. Power plant noise therefore contributes to, and becomes part of, the background noise level, or the sound heard when most intermittent noises cease. In most cases, a power plant will be intended to operate around the clock for much of the year. We evaluate project noise emissions by comparing them to the nighttime ambient background level; this assumes that the potential for annoyance from power plant noise is greatest at night when residents are trying to sleep. Nighttime ambient noise levels are typically lower than daytime levels; differences of 5 to 10 dBA are common. Power plant noise levels at ML2 are predicted to reach 39 dBA L_{eq} (Ex. 200, pp. 4.6-10 – 4.6-12)

When projected plant noise is added to the ambient value the cumulative level is 12 dBA above the ambient value at ML2 . This increase is within the range that can constitute a significant adverse impact. To ensure this noise level is not further exceeded, we adopt Condition of Certification **NOISE-4**, below.

An increase in the noise level at a residence of 12 dBA during the quietest hours of the nighttime might be expected to be annoying during the mild seasons of the year, when people commonly sleep with their windows open. However, when the number of potentially affected residences is small (one at ML2), it is prudent to adopt a condition of certification requiring the project owner to offer noise mitigation measures at the affected residences, if the residents request it, to reduce the impacts to a level of insignificance. This mitigation can include upgrading the dwelling with double-pane windows and solid-core exterior doors, installing exterior wall insulation, installing air conditioning if it is not already in

place, or erecting a sound wall near the residence. We adopt this approach in this case as set forth in Condition of Certification **NOISE-8**, below.

One possible source of annoyance could be strong tonal noises. Tonal noises are individual sounds (such as pure tones) that, while not louder than permissible levels, stand out in sound quality. The Applicant plans to avoid the creation of annoying tonal (pure tone) noises by balancing the noise emissions of various power plant features in the plant's design. (Ex.14, § 6.9.3.2) To ensure that tonal noises do not cause annoyance, we adopt Condition of Certification **NOISE-4**.

All water and gas piping would lie underground and be silent during operation. Noise effects from the electrical interconnection line typically do not extend beyond the right-of-way easement of the line, and would therefore be inaudible to any receptors. (Ex. 14, § 6.9.3.2)

Vibration from an operating power plant could be transmitted by two chief means; through the ground (ground borne vibration) and through the air (airborne vibration).

The operating components of a combined-cycle power plant consist of high-speed gas and steam turbine generators, compressors, and various pumps. All of this equipment must be carefully balanced in order to operate, and permanent vibration sensors are attached to the turbines and generators. The evidence shows that based on experience with numerous previous projects with similar equipment, ground borne vibration from Victorville 2 would be undetectable by any likely receptor.

Airborne vibration, or low frequency noise, can rattle windows and objects on shelves and the walls of lightweight structures. The evidence shows that airborne vibration impacts from a plant like Victorville 2 are typically imperceptible 1,000 feet from the plant. This project's chief source of airborne vibration would

be the gas turbines' exhaust. In this type of power plant, however, the exhaust must pass through the heat recovery steam generators (HRSG) before reaching the atmosphere. HRSGs act as efficient mufflers; this makes it highly unlikely that Victorville 2 would cause perceptible airborne vibration. (Ex. 200, p. 4.6-12)

9. Worker Effects

The Applicant acknowledges the need to protect plant operating and maintenance workers from noise hazards, and has committed to comply with applicable LORS. (Ex. 14, § 6.9.3.2) Signs would be posted in areas of the plant with noise levels exceeding 85 dBA (the level that OSHA recognizes as a threat to workers' hearing), and hearing protection would be required. To ensure that plant operation and maintenance workers are, in fact, adequately protected, we adopt Condition of Certification **NOISE-5**.

10. Cumulative Impacts and Mitigation

Cumulative impacts are two or more individual impacts that, when considered together, are either considerable or could compound or increase other environmental impacts. The CEQA guidelines require that this discussion reflect the severity and likelihood of the impacts but need not provide as much detail as the discussion of impacts attributable to the project alone.

We have not been made aware of any projects in the region that could combine with this project to create cumulative impacts. Only noise from SCLA flight operations is likely to combine with power plant noise. This noise has been accounted for in ambient noise measurements. We therefore find that there would be no cumulative noise impacts involving Victorville 2 either during construction or operation.

FINDINGS AND CONCLUSIONS

Based on the evidence, we find as follows:

1. Noise associated with construction activities at the project will be temporary in nature, limited in duration, and mitigated to the extent feasible; therefore it will not result in a significant impact to the surrounding community.
2. Implementation of the Applicant's proposed mitigation in the form of good design practice and inclusion of appropriate project equipment, and implementation of the Conditions of Certification, will ensure that noise levels will not cause significant impacts.
4. The project owner will implement measures to protect workers from injury due to excessive noise levels.
5. The project will not create ground or airborne vibrations which cause significant off-site impacts.

We therefore conclude that with implementation of the following Conditions of Certification the project will comply with the applicable laws, ordinances, regulations, and standards relating to noise and vibration and that the project will not cause significant direct, indirect or cumulative noise impacts.

CONDITIONS OF CERTIFICATION

NOISE-1 At least 15 days prior to the start of ground disturbance, the project owner shall notify all residents within one and one-half miles of the site and one-quarter mile of the linear facilities, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project and include that telephone number in the above notice. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: Prior to ground disturbance, the project owner shall transmit to the Compliance Project Manager (CPM) a statement, signed by the project owner's project manager, stating that the above notification has been performed and describing the method of that notification, verifying that the telephone number has been established and posted at the site, and giving that telephone number.

NOISE COMPLAINT PROCESS

NOISE-2 Throughout the construction and operation of the Victorville 2, the project owner shall document, investigate, evaluate, and attempt to resolve all project-related noise complaints. The project owner or authorized agent shall:

1. Use the Noise Complaint Resolution Form (below), or a functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
2. Attempt to contact the person(s) making the noise complaint within 24 hours;
3. Conduct an investigation to determine the source of noise related to the complaint;
4. Take all feasible measures to reduce the noise at its source if the noise is project related; and
5. Submit a report documenting the complaint and the actions taken. The report shall include: a complaint summary, including final results of noise reduction efforts, and if obtainable, a signed statement, by the complainant, stating that the noise problem has been resolved to the complainant's satisfaction.

Verification: Within five days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a three-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is implemented.

NOISE-3 The project owner shall submit to the CPM for review and approval a noise control program and a statement, signed by the project owner's project manager, verifying that the noise control program will be implemented throughout construction of the project. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal-OSHA standards.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit to the CPM the noise control program and the project

owner's project manager's signed statement. The project owner shall make the program available to Cal-OSHA upon request.

NOISE RESTRICTIONS

NOISE-4 The project design and implementation shall include noise mitigation measures adequate to ensure that operation of the project will not cause noise levels due to plant operation to exceed an average of 39 dBA L_{eq} measured at monitoring location ML2, the residence one mile west of the project site. No new pure tone components may be caused by the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints.

The measurement of power plant noise for the purposes of demonstrating compliance with this condition of certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (for example, 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence. The character of the plant noise shall be evaluated at the affected residential locations to determine the presence of pure tones or other dominant sources of plant noise.

- A. When the project first achieves a sustained output of 80% or greater of rated capacity, the project owner shall conduct a community noise survey at monitoring location ML2, or at closer locations acceptable to the CPM. This survey shall be performed during power plant operation and shall also include the measurement of one-third octave band sound pressure levels to determine whether new pure tone noise components have been caused by the project.
- B. If the results from the noise survey indicate that the power plant average noise level (L_{eq}) at ML2 exceeds the above value, mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.
- C. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate those pure tones.

Verification: The survey shall take place within 30 days after the project first achieves a sustained output of 80% or greater of rated capacity. Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the CPM. Included in the survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above-listed noise limit and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.

Within 15 days of completion of the new survey, the project owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.

NOISE-5 Following the project's first achievement of a sustained output of 80% or greater of rated capacity, the project owner shall conduct an occupational noise survey to identify the noise hazardous areas in the facility.

The survey shall be conducted by a qualified person in accordance with the provisions of Title 8, California Code of Regulations sections 5095–5099 and Title 29, Code of Federal Regulations section 1910.95. The survey results shall be used to determine the magnitude of employee noise exposure.

The project owner shall prepare a report of the survey results and, if necessary, identify proposed mitigation measures to comply with the applicable state and federal regulations.

Verification: Within 30 days after completing the survey, the project owner shall submit the noise survey report to the CPM. The project owner shall make the report available to OSHA and Cal-OSHA upon request.

CONSTRUCTION TIME RESTRICTIONS

NOISE-6 Heavy equipment operation and noisy construction work relating to any project features shall be restricted to the times of day shown below:

Any Day	7:00 a.m. to 7:00 p.m.
---------	------------------------

Haul trucks and other engine-powered equipment shall be equipped with mufflers that meet all applicable regulations. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

Verification: Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout construction of the project.

STEAM BLOW RESTRICTIONS

NOISE-7 If a high-pressure steam blow is employed, the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 89 dBA measured at a distance of 50 feet. The project owner shall conduct steam blows only during the hours of 7:00 a.m. to 7:00 p.m.

If a low-pressure continuous steam blow or air blow process is employed, the project owner shall submit a description of this process, with expected noise levels and projected hours of execution, to the CPM, who shall review the proposal with the objective of ensuring that the resulting noise levels from the steam or air blows alone will not exceed 40 dBA L_{eq} , measured at the residence at ML2.

Verification: At least fifteen (15) days prior to the first steam blow, the project owner shall submit to the CPM drawings or other information describing the temporary steam blow silencer and the noise levels expected and a description of the steam blow schedule.

At least 15 days prior to any low-pressure continuous steam blow, the project owner shall submit to the CPM drawings or other information describing the process, including the noise levels expected and the projected time schedule for execution of the process.

NOISE-8 In the event legitimate noise complaints under condition of certification **NOISE-2** are made by the owners or occupants of the residence at ML2, the project owner shall offer to pay for the following noise attenuating upgrades to the residence:

- Exterior sound barriers;
- Replacement of single-pane windows with dual-pane windows;
- Replacement of hollow-core exterior doors with solid-core doors and weather stripping;
- Air conditioning (if not already present); and/or
- Additional sound insulation in exterior walls.

The owner of the residence may select any or all of the above upgrades that the residence owner decides (at his or her sole discretion, but following consultation with the project owner) are appropriate. The residence owner and the project owner shall select a mutually acceptable contractor to perform the upgrades. The project owner shall pay the cost of the upgrades.

A "legitimate complaint" refers to a complaint about noise caused by the project, as opposed to another source, as verified by the CPM. A legitimate complaint constitutes either: a violation by the project of any noise condition of certification, which is documented by another individual or entity affected by such noise; or a minimum of three complaints over a 24-hour period that are confirmed as legitimate by the CPM, the project owner, or any local or state agency that would, but for the exclusive

jurisdiction of the Energy Commission, otherwise have the responsibility for investigating noise complaints or enforcing noise restrictions.

Verification: Upgrades shall (unless impossible due to circumstances beyond the project owner's control) be installed within six months of receipt of the complaint. In the first annual compliance report after the receipt of a complaint, the project owner shall include documentation certifying that: 1) the noise-attenuating upgrades were installed on the specified residence at the project owner's expense; 2) the noise attenuating upgrades were already a feature of the residence; 3) installation was offered but refused by the owner; or 4) residential use by the complainant ceased. In the event noise-attenuating upgrades are not complete at the time the annual compliance report is issued, the report shall include a schedule for the completion of the upgrades and the documentation listed above shall be included in the next annual compliance report.

EXHIBIT 1 - NOISE COMPLAINT RESOLUTION FORM

Victorville 2 Hybrid Power Project (07-AFC-1)
NOISE COMPLAINT LOG NUMBER _____
Complainant's name and address:
Phone number: _____
Date complaint received: _____ Time complaint received: _____
Nature of noise complaint:
Definition of problem after investigation by plant personnel:
Date complainant first contacted: _____
Initial noise levels at three feet from noise source _____ dBA Date: _____ _____
Initial noise levels at complainant's property: _____ dBA Date: _____
Final noise levels at three feet from noise source: _____ dBA Date: _____ _____
Final noise levels at complainant's property: _____ dBA Date: _____
Description of corrective measures taken:
Complainant's signature: _____ Date: _____
Approximate installed cost of corrective measures: \$ _____ Date installation completed: _____ Date first letter sent to complainant: _____ (copy attached) Date final letter sent to complainant: _____ (copy attached)
This information is certified to be correct:
Plant Manager's Signature: _____

(Attach additional pages and supporting documentation, as required).

C. SOCIOECONOMICS

This section analyzes the potential impact to the social and economic structure within the project vicinity and region resulting from the construction and operation of the Victorville 2 project. This analysis considers project-related impacts to population, housing, public services (fire protection, emergency response services, law enforcement, schools, and medical services) and utilities, county tax revenue, and economic benefits from the project. Additionally, this section analyzes the cumulative impacts on the availability of labor within the area. The criteria to be used in determining whether project-related socioeconomic impacts would be significant are set forth in CEQA Guidelines, Appendix G.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Demographics, Services, and Finances

The project site is located within the northeast portion of the Southern California Logistics Airport (SCLA) planning area, within the northernmost areas of the city of Victorville. The Victorville 2 project would require an average of 367 construction workers per month and 36 full-time employees to operate. (Ex. 200, p. 4.8-3)

Construction of the power generation facility, including gas and water supply pipelines, transmission lines, and its solar component, is expected to occur over a 27-month period. The greatest number of construction workers would be on site in the 12th month of construction. The number of construction workers would range from about 99 in the last month of construction to 767 workers at peak construction. There would be an average of 367 workers per month during construction.

The evidence shows that at least 70 percent of the construction workers would potentially be drawn from Victorville, Apple Valley, Hesperia, and Adelanto. The rest of the construction workers would come from other parts of San Bernardino and Los Angeles counties, most of which are within a 2-hour commute of the project site. Construction workers beyond a 2-hour commute would relocate but most likely return to their families on the weekends. Most of the Victorville 2 operation work force is expected to come from San Bernardino County, but some workers with specialized technical or managerial skills may relocate to the Victorville-Adelanto area. (Ex. 200, p. 4.8-5)

36 direct operations jobs and 153 jobs as secondary impacts would be created as a result of the project. There would be an annual operations payroll of \$5.4 million and secondary income impact of approximately \$23.4 million in 2007 dollars. (Ex. 200, p. 4.8-7)

In 1997, the President's Council on Environmental Quality issued Environmental Justice Guidance that defines minority as individuals who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander; Black not of Hispanic origin; or Hispanic. Low-income populations are identified with the annual statistical poverty thresholds from the Bureau of the Census's Current Population Reports, Series P-60 on Income and Poverty. (OMB 1978)

Census 2000 information shows the minority population by census block as 0 percent within a 1-mile radius and 63.65 percent within a 6-mile radius of the proposed Victorville 2 site. Census 2000 by census block group information shows that the below-poverty population is 45.27 percent within the 6-mile radius and 0 percent within the 1-mile radius. Poverty status excludes institutionalized people, people in military quarters, people in college dormitories, and unrelated individuals under 15 years old.

Socioeconomics Table 1 provides a summary of socioeconomic data and information, with emphasis on the economic effects of the Victorville 2 project.

**Socioeconomics Table 1
Data and Information***

Estimated Project Capital Costs	\$700 million (2008 dollars)
Estimate of Locally Purchased Materials	
Construction	\$49 million
Operation (Operation and Maintenance)	\$3.1 million annually
Estimated Annual Property Taxes	None, because the city of Victorville owns the project and parcels and the project is within the boundaries of the city of Victorville.
Estimated School Impact Fees	\$15,400
Estimated Direct Employment	
Construction (average)	376 jobs (average per month)
Operation	36 jobs
Estimated Secondary Employment	
Construction	255
Operation	153
Estimated Local Direct Expenditure	
Construction-Annual Local Construction Payroll (Disposable) and Expenditures	\$43 million annually
Operation-Annual Local Operation Payroll	\$5.4 million annually
Estimated Local Secondary Income	
Construction	\$30.2 million
Operation	\$23.4 million
Estimated Payroll	
Construction	\$115.6 million total, \$51.3 million annually (2007 dollars)
Operation	Average: \$5.4 million annually (2007 dollars)
Estimated Sales Taxes	
Construction	\$3.8 million
Operation	\$240,000 annually
Existing Unemployment Rates	Existing – 5.0% in January 2007, for San Bernardino County (Not Seasonally Adjusted) and 5.3% in January 2007 for California (Not Seasonally Adjusted)
Percent Minority Population (6-mile radius)	63.5%
Percent Poverty Population (6-mile radius & beyond)	45.27%
Percent Minority Population (1-mile radius)	0%
Percent Poverty Population (1-mile radius)	0%

* **Table 3** uses 2008 dollars for capital costs, construction would be for 27 months and the project's life is planned for 30 years. Economic (non-fiscal and fiscal) impacts and unemployment is for San Bernardino County, the study area. The results of the IMPLAN/Input-Output modeling are for Los Angeles and San Bernardino counties and show secondary, indirect and induced impacts, as well as direct impacts. Population is for a 6- and 1-mile radius from the power plant, except as noted.

Ex. 200, p. 4.8-14

Fiscal impacts of the Victorville 2 project include construction total sales tax revenue of \$3.8 million; operation sales tax revenue of \$240,000 annually; and school impact fee of \$15,400. (Ex. 200 p. 4.8-7)

Non-fiscal (private sector) impacts include capital costs estimated at \$700 million (2008 dollars), construction payroll of \$115.6 million over 27 months in 2007 dollars, and annual operations payroll of \$5.4 million in 2007 dollars. (Ex. 200, p. 4.8-8)

As of January 1, 2006, there were 29,500 housing units in Victorville, with a vacancy rate of 2.3 percent (US Census Bureau 2005). The city of Adelanto contains 5,547 housing units with a vacancy rate of 15 percent. (Ex. 200, p. 4.8-8)

There is an adequate supply of hotel/motel rooms in the cities of Adelanto and Victorville to accommodate the construction workers who temporarily relocate to the project area. The Applicant estimates an average of approximately 352 rooms (a 24 percent vacancy rate) would be available in the Victorville/Adelanto area. (Ex. 200, p. 4.8-8)

As few if any construction workers would relocate to Victorville, Adelanto or the surrounding communities during project construction we find the Victorville 2 project will not have any significant adverse socioeconomic impacts related to housing resources.

Thirty-six workers would be required for operation of the Victorville 2 project, and are expected to come primarily from the San Bernardino County labor force. (Ex. 200, p. 4.8-9)

Education Code section 17620 authorizes school districts to levy a fee against construction within their districts. State and local agencies, however, cannot

impose additional fees (or other required payments on development projects) to mitigate possible enrollment impacts to schools. School impact fees the Adelanto School District (ASD) and the Victor Valley Union High School District (VVUHSD) are approximately \$15,400. (Ex. 200, p. 4.8-9) We adopt Condition of Certification **SOCIO-1** to ensure payment of this one-time school impact fee, a requirement for LORS compliance.

We conclude that there would be no significant adverse socioeconomic impacts on educational resources as a result of the Victorville 2 project. This is because construction is short-term and no construction workers would likely relocate their families to the project site. During operations the workforce is small (36) and likely to commute from San Bernardino County.

Most if not all of the construction labor force for this project should be drawn from the commuting labor markets. The operational workforce of 36 would be comprised mostly of local residents from San Bernardino County. Because construction is short-term and no workers would likely relocate to San Bernardino County along with their children and the operations workforce is small and likely to commute from within the County, there should be little or no additional demand on parks and recreation due to the project. Thus, we conclude that the project would not have a significant adverse socioeconomic impact on parks and recreation.

The San Bernardino County Sheriff's Department is under contract to the city of Victorville to provide police protection and public safety services. The Victorville Police Station has 71 sworn deputies and 21 non-sworn employees. There is one full-time enforcement officer per 1,100 residents. Average response time for an emergency call is about four to five minutes. The San Bernardino County Sheriff's Department is also under contract with the City of Adelanto, and serves that city with a staff of 23 employees and a service ratio of one full time enforcement officer per 900 residents. The California Highway Patrol (CHP) is

the primary law enforcement agency for state highways and roads. (Ex 200, p. 4.8-10)

Victorville 2 should not significantly impact criminal activity, traffic, or crowd control, from a population perspective, since most of the construction labor force would commute. For the operations phase, the change in population is small (36), with most coming from San Bernardino County or from within commuting distance. Power plants typically have their own security forces. Therefore, we conclude that there would be no significant adverse socioeconomic impacts on law enforcement resources as a result of the Victorville 2 project.

Emergency medical services in the project area are provided by the Victorville Fire Department, which employs 46 full-time firefighters and 17 other personnel. There are four fire stations in Victorville, the closest approximately 2.5 miles from the project site, with a response time of five to six minutes.

There are three hospitals within a 12-mile radius of the project site, Victorville Valley Community Hospital in Victorville, with 119 beds and emergency service, Desert Valley Hospital in Victorville, with 76 beds and emergency service, and St. Mary's Medical Center in Apple Valley, about 12 miles from the project site, with 195 beds.

Additional emergency service is provided by Mercy Air in Adelanto, and the project site is 15 minutes by helicopter from the trauma center in San Bernardino. (Ex. 200, p. 4.8-10)

We find that medical services are adequate for the Victorville 2 project and that there are no significant socioeconomic impacts that might have an adverse impact on the availability of medical services.

2. Environmental Justice

Government Code section 65040.12 (c) defines “environmental justice” to mean “fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies.” In 1997, the President’s Council on Environmental Quality issued Environmental Justice Guidance that defines minority as individuals who are members of the following population groups: American Indian or Alaskan Native, Asian or Pacific Islander; Black not of Hispanic origin; or Hispanic. Low-income populations are identified with the annual statistical poverty thresholds from the Bureau of the Census’s Current Population Reports, Series P-60 on Income and Poverty (OMB 1978).

The steps recommended by these guidance documents to assure that environmental justice concerns are addressed include: (1) outreach and involvement; (2) a demographic screening to determine the existence of a minority or low-income population; and (3) if warranted, a detailed examination of the distribution of impacts on segments of the population.

The purpose of an environmental justice screening analysis is to determine whether a below poverty level and/or minority population exists within the potentially affected area of the proposed site. A demographic screening was conducted in accordance with the “Final Guidance for Incorporating Environmental Justice Concerns in EPA’s NEPA Compliance Analysis” (Guidance Document) (EPA 1998). People of color populations, as defined by this Guidance Document, are identified where either the minority population of the affected area is greater than 50 percent of the affected area’s general population; or the minority population percentage of the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis.

Census 2000 information shows the minority population by census block as 63.65 percent within a 6-mile radius of the proposed Victorville 2 site. The project thus has the potential to have a disproportionate impact upon a minority population. The primary environmental justice issues for power plant siting and development are air quality, noise, and water resources. In this case, the evidence shows that the nearest census tract with a minority population exceeding 50% is approximately five miles away. (Ex. 17, p. 6.12-36) As discussed elsewhere in this decision, the project will have no significant environmental impacts when built and operated in accordance with the conditions of certification. Accordingly, we find that the Victorville 2 project will not have a disproportionate impact on a minority or poverty population.

3. Cumulative Impacts

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. (Cal. Code Regs., tit. 14, § 15130)

Cumulative impacts may occur when more than one project has an overlapping construction schedule that creates a demand for workers that cannot be met by local labor, resulting in an influx of non-local workers and their dependents.

A number of other projects are planned for the San Bernardino County region in the near future. These include a Southern California Edison peaker plant and switchyard in San Gabriel, a solar thermal power plant in Ivanpah, a power plant in Rancho Cucamonga, a power plant in Grand Terrace, and several major commercial or public projects. At the peak of construction, these projects could require as many as 3,977 workers. The 2002/2004 Riverside-San Bernardino-Ontario and Los Angeles-Long Beach MSAs and the Santa Ana-Anaheim-Irvine

Metropolitan Division (Orange County) total construction workforce is 351,570. Because there is such a large construction workforce to accommodate these projects, we conclude that there would be no significant adverse cumulative socioeconomic impacts for the Victorville 2 project. (Ex. 200, p. 4.8-12)

FINDINGS AND CONCLUSIONS

Based on the evidence, we find and conclude as follows:

1. The project will draw primarily upon the local and regional labor pool for the construction and the operation workforce.
2. The project will not cause an influx of a significant number of construction or operation workers into the local area.
3. The proposed project is not likely to have a significant adverse effect upon local employment, housing, schools, medical resources, or police protection.
4. Construction and operation of the project will not result in any significant direct, indirect, or cumulative socioeconomic impacts.
5. All environmental impacts from the project will be mitigated to below a level of significance.
6. The project will not cause or contribute to disproportionate impacts upon minority or low income groups.

CONDITION OF CERTIFICATION

SOCIO-1 The project owner shall pay the one-time statutory school development fee to the Adelanto Elementary School District and the Victor Valley Union High School District, as required by Education Code, section 17620.

Verification: At least 30 days prior to the start of project construction, the project owner shall provide the Compliance Project Manager (CPM) proof of payment of the statutory development fee.

D. TRAFFIC AND TRANSPORTATION

This section addresses the extent to which the proposed project will affect the local area's transportation network. The evidence includes an analysis of: (1) the roads and routings that are proposed to be used for construction and operation; (2) potential traffic-related problems associated with the use of those routes; (3) the anticipated encroachment upon public rights-of-way during the construction of the proposed project and associated facilities; (4) the frequency of trips and probable routes associated with the delivery of hazardous materials; and (5) the possible effect of project operations on local airport flight traffic.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Location

The Victorville 2 project site is located about 3.5 miles east of State Route 395 (SR-395) and 1.5 miles northeast of the end of the north/south runway designated 17/35 of the Southern California Logistic Airport (SCLA). The site is just south of the northern boundary of the city of Victorville and would be located adjacent to the intersection of Colusa and Helendale Roads. **Traffic and Transportation Figure 1, Regional Transportation System, shows** the region surrounding the project site.

2. Access Roads

Plant construction and operation traffic would use the existing roadways, which could include SR-395, Interstate 15 (I-15), SR-18 (Palmdale Road), and Adelanto and Colusa roads. I-15 and SR-395 are the principal highways in the area and both have Levels of Service (LOS) B for daily traffic levels. (Ex. 18, Table 6.13-5, p. 6.13-13) Access to the site would be via Colusa and Helendale roads, which are operating at LOS A with free flowing traffic. (Ex. 200, p. 4.10-7)

3. Airports

The project is located 1.5 miles northeast of Runway 17/35 of the Southern California Logistics Airport (SCLA), formerly George Airforce Base. SCLA is a goods movement facility that is expected to handle an increasing amount of air cargo destined for Southern California. The Victorville 2 project site is within the landing and take-off pattern of the SCLA.

Additional regional aviation facilities include Apple Valley Airport, ten miles east, and Edwards Airforce Base, thirty miles northwest. The project site is not in the landing or take-off pattern of either of these facilities and is not within the Edwards AFB Military Operational Airspace, fifteen miles northwest. (Ex. 200, p. 4.10-4)

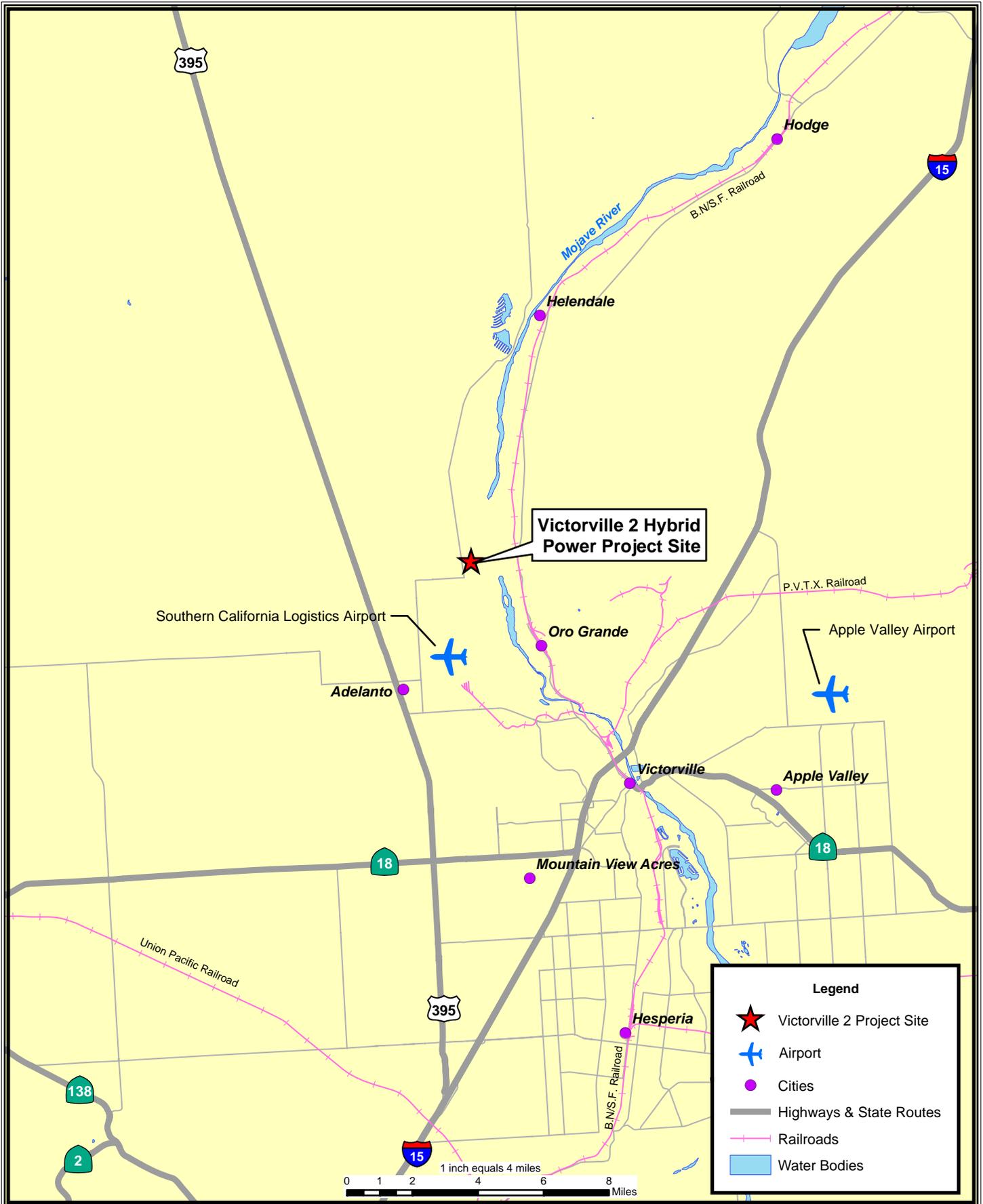
4. Railroads

There are two major rail lines in the vicinity of the Victorville 2 project site. The Burlington Northern and Santa Fe Railroad have a north/south oriented line that parallels National Trails Highway and provides freight service to numerous markets in San Bernardino County and beyond. The rail line is about one mile east of the project site and does not cross any roads that would be used for construction or operation of the Victorville 2 project. The Union Pacific Railroad has an east/west rail line about sixteen miles south of the project site.

5. Direct/Indirect Impacts and Mitigation

Level of Service measurements are used to evaluating a project's potential impact on the local transportation system. Level of service (LOS) is a description

TRAFFIC & TRANSPORTATION - FIGURE 1
 Victorville 2 Hybrid Power Project - Regional Transportation Facilities



SOURCE: Ex. 200

of a driver's experience at an intersection or roadway based on the level of congestion (delay). LOS can range from "A," representing free-flow conditions with little or no delay to "F," representing saturated conditions with substantial delay.

a. Construction Traffic

Construction of the proposed facility, including linears, would take approximately 27 months. The number of construction workers will average 360 and will peak at 767. The evidence shows that SR-395 north and south of Air Expressway currently operates at LOS D, and is expected to deteriorate to LOS E/F during afternoon peak by year 2009. (Ex. 200, p. 4.10-6) SR-395 changes from two to four lanes at various points north of I-15 and has about a half-dozen signalized intersections south of Air Expressway. In addition, the section of SR-18 near I-15 is congested (LOS D/E) during peak periods. In contrast, the LOS for I-15 south of the National Trails Highway is B. (Ex. 18, p. 6.13-17) Therefore, we are requiring Condition of Certification **TRANS-1**, that construction workers use I-15, National Trails Highway, Air Expressway, and Adelanto, Colusa, and Helendale roads to reach the Victorville 2 project site, thereby minimizing the impact on those roads which already have poor LOS.

Project construction is expected to require fifteen trucks per day on average and fifty trucks per day during peak construction. (Ex. 18, p. 6.13-16) In-bound and out-bound truck traffic would arrive and depart the project site using the same route as construction workers.

The Applicant has agreed to develop and implement a construction phase traffic management plan in consultation with the city of Victorville. (Ex. 18, p. 6.13-29) This would address issues such as the timing of deliveries of heavy equipment and materials, possible street or lane closures, detours of construction traffic with a flag-person, use of signage and traffic control devices, and ensuring access for

emergency vehicles to the project site. In order to ensure that the LOS for local roads predicted by the models would be maintained, we adopt Condition of Certification **TRANS-1**. The Applicant has stated its intention to pave the unpaved section of Adelanto Road north of Air Expressway as well as the section of Colusa Road from Adelanto to Helendale Road, and several hundred yards of Helendale Road north of Colusa Road until reaching the site entrance. (Ex. 200, p. 4.10-7) We also adopt Condition of Certification **TRANS-2** which would require the project owner to repair any damage to local roads from construction traffic.

b. Operation Traffic

Operation of the power plant would require a labor force of 36 full-time employees that would generate 72 one-way trips to and from the Victorville 2 project site. Other project-related trips (i.e., delivery trucks, visitors, and other business-related trips) are estimated to be 64 per month and would occur during regular business hours. We assume that operational workers would follow the same routes as construction workers. These trip additions to surrounding local streets and highways would not significantly affect the LOS of these roads.

6. Hazardous Materials Transport

Transportation of hazardous materials to and from the site will be conducted in accordance with all applicable LORS. The California Department of Motor Vehicles specifically licenses all drivers who carry hazardous materials. Drivers are required to check for weight limits and conduct periodic brake inspections. Commercial truck operators handling hazardous materials are required to take instruction in first aid and procedures on handling hazardous waste spills. Drivers transporting hazardous waste are required to carry a manifest which is available for review by the California Highway Patrol at inspection stations along major highways and interstates. Assuming compliance with existing federal and

state standards, deliveries of hazardous materials such as aqueous ammonia and water treatment chemicals will not likely create significant impacts.

A licensed hazardous waste transporter would haul any hazardous waste from the project site to one of three Class 1 hazardous waste landfills in western Kern County near the communities of Buttonwillow and Kettleman City, and in Imperial County near the community of Westmoreland. (Ex. 200, p. 4.10-9) The handling and disposal of hazardous substances are also addressed in the **WASTE MANAGEMENT, WORKER SAFETY AND FIRE PROTECTION** and **HAZARDOUS MATERIALS** sections of this assessment.

7. Air Traffic

As noted earlier, the closest major airport is Southern California Logistics Airport (SCLA) which is 1.5 miles southwest of the Victorville 2 project site. The existing flight pattern does bring aircraft at low altitude (1,500 feet above ground level) near the northern boundary of the project site. Aircraft approaching from the northeast on landing approach to runway 17-35 could fly over the northwest corner of the project site over the solar field. Almost all of the aircraft using the SCLA are two or four engine cargo jets. (Ex. 200, p. 4-10-9)

On April 20, 2008 the FAA issued a Determination of No Hazard to Air Navigation for the project (CEC Docket No. TN 45976). Nonetheless, to avoid potential turbulence created by thermal plumes from the stacks, we adopt Condition of Certification **TRANS-3** that would require the project owner to work with the Federal Aviation Administration (FAA) and the SCLA Airport Manager to implement a number of measures that would advise pilots to avoid direct overflight of the power block portion of the project.

The evidence reflects that some concern was raised over the possibility of glare from the solar array having an adverse impact on the vision of pilots using the

airport. Although the preponderance of the evidence shows that this concern has little, if any, basis in fact, (see, e.g. Ex. 68) we are adopting Condition of Certification **TRANS-4** which would require that all the parabolic mirrors are monitored to ensure that they are tracking the sun correctly, and when not in use they should be positioned in such a manner as to reduce the potential for glare. In addition, **TRANS-4** also establishes a glare complaint resolution process should any complaints be made by pilots. We find that these mitigation measures would reduce the chance of glare adversely affecting pilot's control of aircraft to an insignificant level.

8. Cumulative Impacts and Mitigation

There is no evidence in the record of any other development in the local area that could combine with the Victorville 2 project to produce cumulative traffic or transportation impacts.

FINDINGS AND CONCLUSIONS

Based on the evidence, we find and conclude as follows:

1. The project as proposed would comply with all applicable LORS related to Traffic and Transportation.
2. With the Conditions of Certification we adopt in this Decision, the project would not impact aviation safety.
3. Condition of Certification **TRANS-2** requires that any road damaged by project construction would be repaired to original condition. This will ensure that any damage to a local roadway will not be a safety hazard to motorists.
4. Condition of Certification **TRANS-4** requires monitoring the solar arrays to ensure they are tracking the sun correctly to minimize glare, and when not in use, that they be positioned to reduce the potential for glare that could create air traffic safety hazards.
5. The FAA has issued a Determination of No Hazard to Air Navigation with respect to the project.

6. Condition of Certification **TRANS-3** requires that the project owner, the SCL Airport Manager, and the FAA implement measures to advise pilots to avoid direct overflight of the power block of the project so as not to be affected by thermal plumes.
7. There would be no significant direct or cumulative traffic and transportation impacts and therefore no environmental justice issues.

We therefore conclude that construction and operation of the project, as mitigated herein, will not result in any significant, direct, indirect, or cumulative impacts to the local or regional traffic and transportation system, nor will the project cause significant degradation in the LOS on area roads.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall, in coordination with the city of Victorville, develop and implement a construction traffic control plan prior to earth moving activities. Specifically, the overall traffic control plan shall include the following:

- Construction workers should access the project site via I-15, National Trails Highway, Air Expressway, and Adelanto, Colusa, and Helendale roads;
- Schedule delivery of heavy equipment and building material deliveries, as well as the movement of hazardous materials to the site, including the adjacent lay-down area, to occur during off-peak hours (7to 9AM and 4 to 6PM);
- Coordinate with the city of Victorville to mitigate any potential adverse traffic impacts from other proposed construction projects that may occur during the construction phase of the project; and
- Ensure there is adequate access for emergency vehicles at the project site.

The construction traffic control plan shall also include the following activities for linear facilities:

- Signing, lighting, and traffic control device placement;
- Temporary travel lane closures and potential need for flaggers;

Verification: At least 60 days prior to start of site mobilization, the project owner shall provide to the city of Victorville for review and comment and to the Compliance Project Manager (CPM) for review and approval, a copy of the construction traffic control plan. The plan must document consultation with Caltrans.

TRANS-2 Prior to site mobilization activities, the project owner shall prepare a mitigation plan for the roads that would be used for project construction (National Trails Highway, Air Expressway, Adelanto, Colusa, and Helendale roads) should they be damaged by project construction. The plan is should ensure that if roads are damaged by project construction they will be repaired and reconstructed to original or as near original condition as possible. The **AIR QUALITY** analysis requires that the unpaved portions of the Adelanto, Colusa, and Helendale roads be paved prior to construction. If the newly paved roads are damaged during construction they shall be repaired pursuant to city of Victorville standards. This plan shall be approved prior to the start of construction and shall include:

- Documentation of the pre-construction condition of above identified roads to the access road to the site. Prior to the start of site mobilization, the project owner shall provide to the CPM photographs or videotape identified roads.
- Documentation of any portions of the above noted roads that are not adequate to accommodate oversize or large construction vehicles, and identify necessary remediation measures;
- Provide for appropriate bonding or other assurances to ensure that any damage to identified local roads due to construction activities will be remedied by the project owner; and
- Reconstruction of portions of identified roads that are damaged by project construction.

Verification: At least 90 days prior to the start of site mobilization, the project owner shall submit a mitigation plan focused on restoring the local identified road to its pre-project condition to the city of Victorville for review and comment, and to the CPM for review and approval.

Within 90 days following the completion of construction, the project owner shall provide photo/videotape documentation to the city of Victorville, and the CPM that the damaged sections of the local identified roads have been restored to their pre-project condition.

TRANS-3 Prior to the start of operations, the project owner shall develop and implement, in conjunction with the SCL Airport Manager and the FAA, the following measures to alert pilots to the location of the Victorville 2 project: 1) requesting the FAA Notice to Airmen

(NOTAM) be issued advising pilots of the location of the Victorville 2 project; 2) amending navigational charts (i.e. Jeppguide Airport Directory, Western Region); the Los Angeles VFR Terminal Chart, and the SCLA Airport Facility Directory to include a symbol representing the project; 3) provide SCLA control tower operators verbal and written notice before the power block test, commissioning period, and commercial operation; and 4) install obstruction lighting and marking on each exhaust stack, both ends of the cooling tower, and additional lighting at each corner of the power block.

Verification: At least 90 days prior to the start of operations, the project owner shall provide copies of the NOTAM, modified SCL Airport Facility Directory and the Los Angeles VFR Terminal Chart, a written advisement for use by controllers advising pilots to avoid direct overflight of the power block portion of the project, and the lighting plans for the exhaust stacks, cooling tower and the corners of the power block. These materials shall be provided to the SCL Airport Manager and the FAA for review and comment, and to the CPM for review and approval.

TRANS-4 The project owner shall develop and implement a plan prior to operation to monitor the parabolic arrays to ensure that they are tracking the sun's movement as accurately as possible to minimize glare. The plan shall also include a discussion of the measures that will be implemented to ensure the appropriate position for arrays that are not in use, or operating correctly so as to minimize the potential for glare. If the project owner receives a complaint about glare, a complaint resolution form and proposal to resolve the complaint shall be filed with the CPM.

Verification: At least 90 days prior to the start of operations of the solar thermal portion of the project, the project owner shall provide a copy of the plan to monitor the parabolic arrays and how they would be configured when not in use to the SCL Airport Manager and the FAA for review and comment, and to the CPM for review and approval. In the annual compliance report, the project owner shall report on activities conducted during the previous year to comply with this condition. Within ten days of receiving a glare complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 10 days after completing implementation of the proposal. A copy of the complaint resolution reform report shall be submitted to the CPM within thirty days of complaint resolution.

E. VISUAL RESOURCES

Visual resources are the features of the landscape that contribute to the visual character or quality of the environment. CEQA requires an examination of a project's visual impacts in order to determine whether the project has the potential to cause substantial degradation to the existing visual character of the site and its surroundings. (Cal. Code Regs., tit. 14 § 15382, Appendix G.)

In analyzing the visual resources and impacts, we first describe the project's visual setting in terms of existing visual character and quality. The project setting is delineated into landscape units of contiguous, broadly consistent visual character and quality.

Within each landscape unit, Key Observation Points (KOPs) are then identified to represent the most critical locations from which the project would be seen. These reflect, in particular, those key sensitive viewer groups most likely to be affected by the project. Assessments of project impact are determined from these KOPs. KOPs are rated for their level of Visual Sensitivity to impact.

Visual simulations of the project as seen from KOPs, along with field observations, are used to evaluate the projected levels of project contrast, dominance, and view blockage, leading to an overall impact rating from that KOP.

In addition, the project is evaluated for conformance with applicable LORS. Adopted expressions of local public policy pertaining to visual resources are also given great weight in determining levels of viewer concern.

As needed, Conditions of Certification are proposed to mitigate potentially significant impacts, and to ensure LORS conformance.

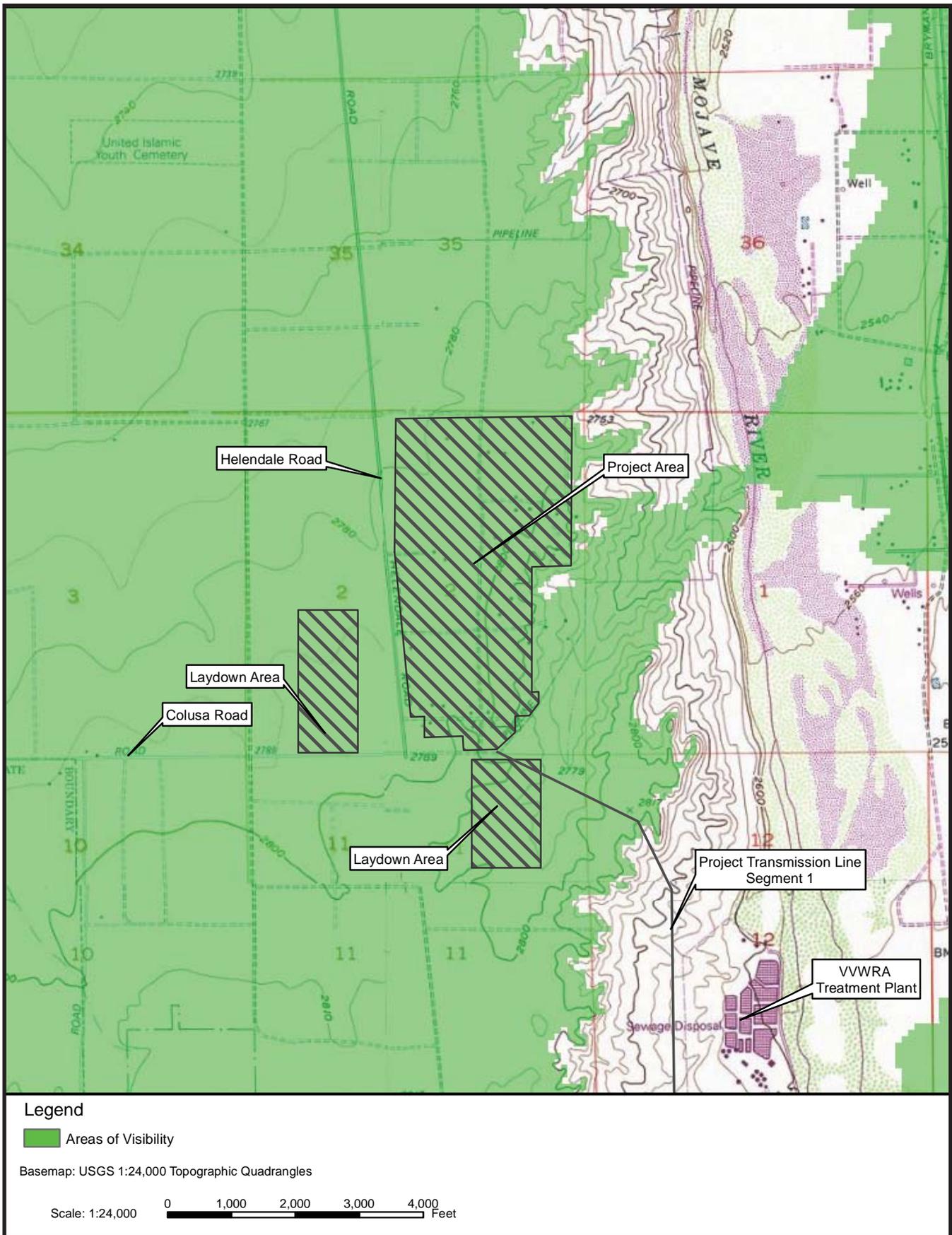
SUMMARY AND DISCUSSION OF THE EVIDENCE

The Victorville 2 project will use solar technology to generate a portion of the project's output. Primary equipment for the generating facility would include two natural gas-fired combustion turbine-generators, two heat recovery steam generators (HRSGs), one steam turbine-generator (STG), and 250 acres of parabolic solar-thermal collectors in the solar field with associated heat transfer equipment.

The proposed project would be constructed on an approximately 275-acre site north of the Southern California Logistics Airport (SCLA), the former George Air Force Base (AFB) in the City of Victorville, in San Bernardino County. The site lies approximately 3.5 miles east of U.S. Highway 395 and approximately 0.5 mile west of the Mojave River. Notable landscape features in the regional project setting include the San Gabriel Mountains (approximately five miles to the east), the Quartzite Mountain range (approximately five miles to the east), and the San Bernardino Mountains (approximately 24 miles to the south). The project site currently consists primarily of undisturbed land and does not contain significant scenic resources. (See **Visual Resources Figure 1** – Aerial View of Site and Vicinity.)

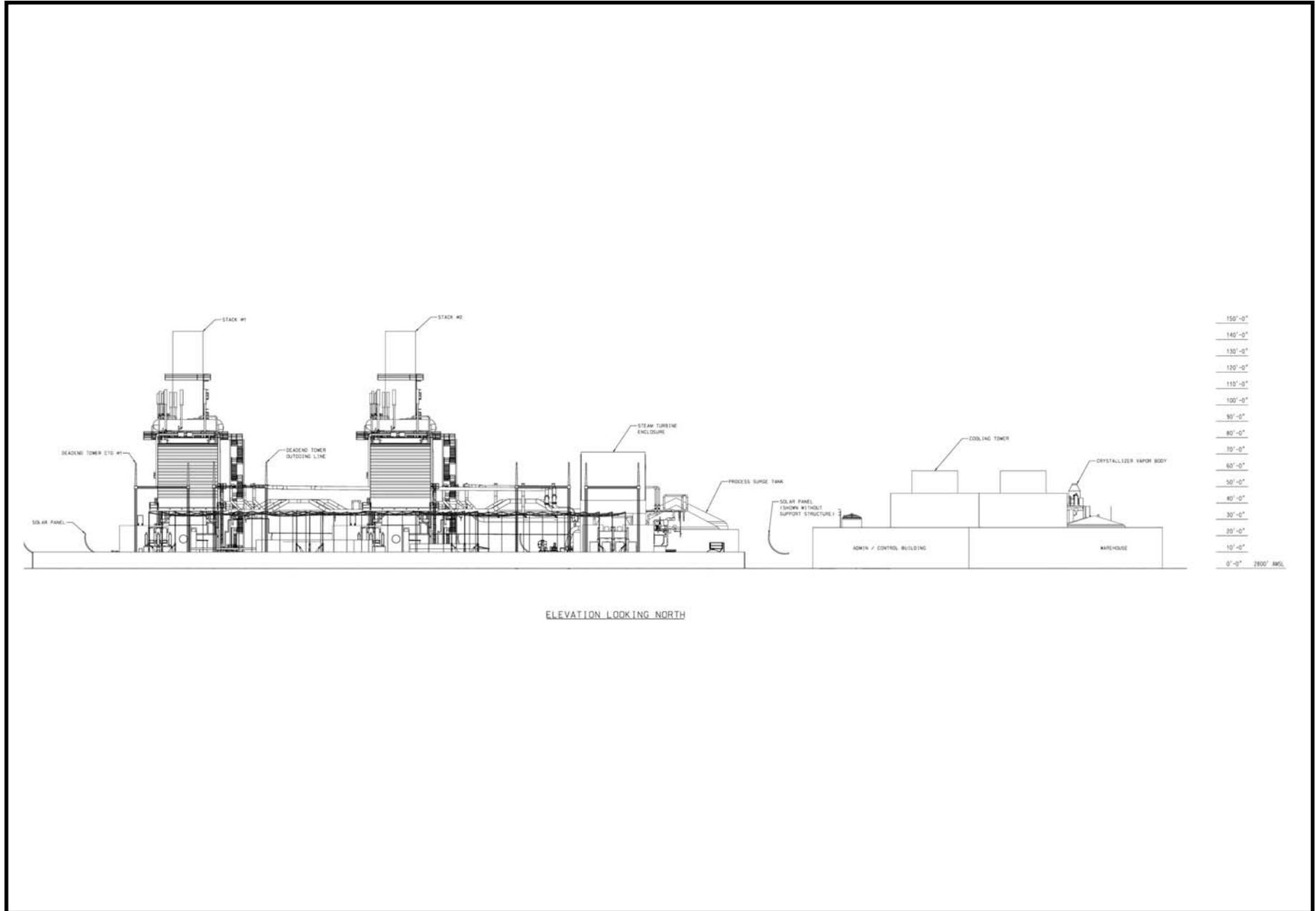
From ground-level vantage points, the most publicly visible components for Victorville 2 would include two 145-foot tall HRSG stacks, one 68-foot tall cooling tower, and a 75-foot tall STG enclosure. (See **Visual Resources Figure 2** – Plant Elevations Looking North.) The nearest residence with views to the project site is located on Colusa Road approximately one mile to the west. Several residences on the east side of the Mojave River would have views of the proposed project at a distance of approximately 1.5 miles from the natural gas fired power plant, and approximately 0.8 mile from the eastern edge of the solar array field.

VISUAL RESOURCES - FIGURE 1
Victorville 2 Hybrid Power Project - Aerial View of Site and Vicinity



SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 2
Victorville 2 Hybrid Power Project - Plant Elevations Looking North



The transmission line route is divided into three segments and extends approximately 21 miles from the plant site to the Lugo Substation in an unincorporated portion of San Bernardino County, south of Victorville and west of the city of Hesperia. Segment 1 consists of approximately 4.3 miles of transmission line to be constructed within a newly designated right-of-way (ROW). The full length of this segment is within the boundaries of the SCLA Plan Area, in an area designated for Industrial development. The property along this portion of the transmission route is largely undeveloped, except for the Victor Valley Wastewater Reclamation Authority (VWVRA) Regional Wastewater Treatment Facility (VWVRA facility) on the eastern boundary and former George AFB structures at the southern end of the segment that are scheduled for demolition. (Ex. 200, p. 4.12-3)

All portions of Segments 2 and 3 are within existing transmission ROWs. Segment 2 extends from the transmission line's connection point with the existing High Desert Power Project (HDPP) transmission tower structure to the SCE Victor Substation, a distance of approximately 5.7 miles. This portion of the project includes upgrades to the existing transmission facilities and structures, as well as the construction of three new transmission towers. Segment 2 lies entirely within the city of Victorville jurisdiction, although it skirts Victorville's western boundary with the city of Adelanto just south of the SCLA Plan Area. Property along this segment is largely undeveloped, with residential pockets along the eastern side of the route. Segment 3 is the final portion of the Victorville 2 project's transmission line route and connects the Victor Substation to SCE's Lugo Substation. (Ex. 200, p. 4.12-3 – 4.12-4)

1. Method and Threshold for Determining Significance

The 2006 CEQA Guidelines Appendix G Environmental Checklist pertaining to Aesthetics includes the following questions:

- Would the project have a substantial adverse effect on a scenic vista?

- Would the project substantially damage scenic resources, including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway?
- Would the project substantially degrade the existing visual character or quality of the site and its surroundings?
- Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

The existing visible physical environmental setting and the visual change introduced by both construction and operation of the proposed project are then evaluated from a fixed vantage point called a “Key Observation Point” (KOP). KOPs may represent primary viewer groups that would potentially be affected by the project. Construction impacts include the temporary impacts caused by construction equipment and erection of the project structures. Operational impacts include lighting and visible plumes as well as the permanent impact of the project structures themselves.

2. Construction Impacts

Construction activities for the project would occur during an approximate 27-month period. Main construction activities include: grading of 338 acres for the power block and solar fields; the installation of the combustion turbine generators (CTGs), steam turbine generator (STG) and power train foundations; the installation of pipe supports, liner plates and baffles and aboveground electrical; exhaust stack fabrication and condenser work; the installation of aboveground tanks, prefabricated buildings and parabolic solar-thermal collectors with associated heat transfer equipment. In addition, during the construction period, construction materials, heavy equipment, trucks, modular offices, and parked vehicles would be publicly visible on the construction laydown areas.

The public visibility of the construction site and activities on it would be unobstructed, because of the largely undeveloped and vacant land surrounding the project site. The nearest residence with possible views of the project site is

located on Colusa Road which is approximately one mile to the west. (Ex. 200, p. 4.12-7)

Typically, screening of onsite construction site activities is accomplished with perimeter fencing. Because of the lack of residences in the immediate project area, no screening during the construction phase is needed in order to prevent adverse impacts (*id.*).

During the construction and installation of the overhead transmission line and associated structures, construction materials, equipment, trucks, and vehicles will be visible for a short time. The new transmission lines would visually blend with the existing transmission structures and wires in Segments 2 and 3. Segment 1 of the transmission line would require construction of tubular steel transmission poles for approximately 4.3 miles. KOPs 1 and 2 were chosen to evaluate the project's power plant components, including the proposed transmission line and its potential visual impacts from National Historic Trail Route 66. We find that because the visual changes associated with the construction of the transmission lines would be minor and temporary, impacts would be less than significant.

During pipeline construction, the ground surface along the proposed alignments would be temporarily disrupted by the presence of construction equipment, excavated piles of dirt, concrete and pavement, and construction personnel and vehicles. Along the construction route, visibility from nearby areas would be of a short duration, as each pipeline segment is generally constructed and installed within a few days, before proceeding to the next segment installation. After construction, the ground surfaces would be restored. The restored ground surfaces and buried pipelines would not create a change to the existing visual condition.

Construction activities would not result in a long-term visual degradation. We find that the project's construction activities would have a less than significant visual impact.

3. Operation Impacts

KOP 1, the National Historic Trail Route 66-Southbound, was selected to represent views by residents and travelers and is approximately 500 feet south of Desert Flower Road and approximately 1.75 miles northeast from the Victorville 2 project site. (See, **Visual Resources Figure 3 – View from KOP 1.**)

The major element in this view is the expanse of flat, open desert lands. The railroad embankment in the foreground provides a distinct variation from the typical high desert coloration. Scattered ranchettes are in the foreground, and the foothills are in the background. The visual quality of the KOP 1 viewshed is low to moderate.

Residential viewers are typically considered to be highly sensitive to modifications of a viewshed. However, from this KOP most residences do not have a view of the project due to the screening provided by backyard fences, structures, and trees and vegetation in the foreground. There is the potential for the project to be visible to some degree from some short street segments, particularly portions of Peso Court and Jericho Road. Because this view is from a residential neighborhood, the level of viewer concern is considered high. Overall viewer exposure for residences in this area is considered moderate based on the moderate visibility, moderately low number of viewers, and moderate duration of view.

Route 66 is a north-south two-lane road that provides an additional access to the cities of Victorville and Apple Valley. The road lies approximately one mile east of the project site, and is identified in the County of San Bernardino Desert Region

Circulation and Infrastructure Plan as a scenic highway. Generally, motorists on this stretch of highway are local workers, due to the high concentration of industrial uses on this portion of Route 66. Typically, workers are not considered highly sensitive to visual change, so the estimated level of viewer concern of motorists along this segment of Route 66 is considered moderate.

The AFC states that the average vehicle volume per hour along the road segment of Route 66 south of Air Expressway is 1,200. (Ex. 18, p. 6.13-13; Table 6.13-5.) If at least one individual per vehicle trip was exposed to a view of power plant structures, the estimated number of motorist exposures would be considered to be moderately low. Staff visited the project site and estimates the duration of view for motorists traveling north on Route 66 at the legal speed limit (45-miles per hour) through the KOP 1 viewshed is on the order of 10 to 20 seconds, which is considered to be low to moderate. (Ex. 200, p. 4.12-8) The visibility of the project site is considered to be moderate to high. Overall exposure for motorist is considered to be moderate.

The overall visual sensitivity from the KOP 1 location for both motorists and residential viewers is considered moderate due to its moderately low visual quality, high viewer concern, and moderate overall viewer exposure.

Visual Resources Figure 4 presents a photo simulation of the proposed project's publicly visible structures after the completion of construction in the KOP 1 viewshed.

From ground level, the most visible aspects of the power plant structures at KOP 1 would be the combustion turbine generators, exhaust stacks, and partial view of the cooling towers. The proposed project structures would add to the industrial character of the local area from this viewpoint.

The Applicant shows in its photo simulations and architectural rendering that the exteriors of major project structures would be treated with a gray finish intended to optimize its visual integration with the surrounding desert setting. We adopt Condition of Certification **VIS-1** which requires that all project features be colored to blend in with the existing landscape to the greatest extent feasible in accordance with a Surface Treatment Plan that would be approved by the CPM.

The project would occupy a small portion of the total field-of-view of KOP 1. The overall visual scale of the structures as simulated in the KOP 1 viewshed is considered to be moderate.

The project would introduce publicly visible structures to the KOP viewshed; the degree of view disruption introduced by the structures is considered to be moderately low. There is no identified or designated scenic resource or vista in the KOP viewshed that would be blocked from view by project structures.

The overall visual change to KOP 1 viewshed is moderate due to the project's high visual contrast, moderate scale, and low view disruption.

We find the introduction of the Victorville 2 project structures would not substantially degrade the existing viewshed at KOP 1. When considering the overall visual sensitivity of the various viewing groups at KOP 1, motorist views, and overall visual change, the introduction of the proposed project's publicly visible structures would generate a less than significant visual effect at this KOP.

VISUAL RESOURCES - FIGURE 3

Victorville 2 Hybrid Power Project - View From KOP 1 Looking Southwest Toward Victorville 2 Site from (Existing Condition)



SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 4

Victorville 2 Hybrid Power Project - View From KOP 1 Looking Southwest Toward Victorville 2 Site (Simulated Condition)



SOURCE: Ex. 200

KOP 2 (see **Visual Resources Figure 5**), was chosen to represent views by travelers along National Historic Trail Route 66, approximately 1.5 miles north of Oro Grande and approximately two miles southeast of the Victorville 2 project site. The view includes the switchyard at the southeast corner of the site where the project transmission line would exit the plant site. The transmission line at its nearest point would be located approximately 1.2 miles from this KOP. (Ex. 200, p. 4.12-10)

The major elements in this view are the Mojave River valley landscape and the Victor Valley Wastewater Reclamation Authority Treatment Plant (VWVRA) in the foreground and middle ground, respectively. A single residence is located on the right hand side of the Figure 5 photo. This residence will be vacated under a purchase agreement with the city of Victorville; therefore this KOP only represents the travelers along Route 66. The KOP 2 viewshed does not include a scenic resource or vista. The estimated public appeal of the visual quality of the KOP 2 viewshed is considered to be low to moderate. (Ex. 200, p. 4.12-10)

There is no focal point in the viewshed that draws the viewer's eye to a unique feature, especially with the dense tree foliage which obscures the view of the Mojave River. The estimated level of viewer concern towards preserving the existing KOP 2 viewshed is considered to be moderate.

Due to the topography, viewers in the area of KOP 2 would only be exposed to a partial view of the project's stacks. The visibility of the project site is considered low. The transmission lines will be visible in the middle ground view, and the neutral color and non-reflective surface will reduce their visual contrast with their surrounding.

The count of vehicle trips along the road segment of Road 66 is 1,200. The estimated number of motorist view exposures is considered to be moderately low. Staff visited the project site and estimated the duration of view for motorists

traveling north on Route 66 in the KOP 2 viewshed to be on the order of 10 to 20 seconds which is considered to be moderately low. Overall, view exposure for motorists is considered moderately low.

The overall visual sensitivity for a motorist would be considered moderately low from the KOP 2 location. This assessment is the result of a moderately low visual quality, moderately low viewer concern, and moderately low overall viewer exposure.

The Applicant's photo simulation of the publicly visible project structures after the completion of construction in the KOP 2 viewshed shows that the project's publicly visible structures are barely noticeable from the KOP 2 location (see **Visual Resources Figure 6**). The project structures would not attract attention in the KOP 2 viewshed and as a result, contrast, visual scale, and view disruption are all low.

We find that the introduction of the Victorville 2 structures would not substantially degrade the existing viewshed at KOP 2. When considering the overall visual sensitivity of the viewers at KOP 2 (motorist views [moderately low]), and overall visual change of low, the introduction of the proposed project's structures would generate a less than significant visual effect at this KOP.

KOP 3 (Visual Resources Figure 7) is located approximately 50 feet north of Colusa Road in front of the residence of a horse ranch. It was chosen to represent the view of the residents of the horse ranch and travelers along Colusa Road.

VISUAL RESOURCES - FIGURE 5

Victorville 2 Hybrid Power Project - View From KOP 2 Looking Northwest Toward Victorville 2 Site and Segment 1 ROW from (Existing Condition)



SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 6

Victorville 2 Hybrid Power Project - View From KOP 2 Looking Northwest Toward Victorville 2 Site and Segment 1 ROW (Simulated Condition)



SOURCE: Ex. 200

VISUAL RESOURCES - FIGURE 7

Victorville 2 Hybrid Power Project - View From KOP 3 Looking East Toward Victorville 2 Site from (Existing Condition)



SOURCE: Ex. 200

The view from KOP 3 towards the proposed project site includes the Mojave Desert landscape and Colusa Road. The background view is dominated by the Quartzite Mountain range. The estimated public appeal of the visual quality of the KOP 3 viewshed is moderate. Existing landscaping directs views from the residence represented by KOP 3 in the direction of Victorville 2 site; therefore overall visibility from the KOP is moderately high. Viewer concern is rated high because the viewer is accustomed to an uninterrupted view of the Quartzite Mountain range from the property. (Ex. 200, p. 4.12-11)

The estimated number of potential motorist exposures is considered low for local residents in the area. Overall viewer exposure is considered moderately low.

The overall visual sensitivity for residents of the horse ranch and motorists along Colusa Road from KOP 3 would be considered moderate. This assessment is the result of a moderate visual quality, high viewer concern, and moderate overall viewer exposure.

Visual Resources Figure 8 is a photo simulation in the KOP 3 viewshed of the proposed project's publicly visible project structures. The project would be highly noticeable from the KOP 3 location with the vertical, cylindrical form of its 145-foot tall exhaust stacks, and solar array structures which would extend across the desert landscape for approximately one mile in length and 29 feet in height from KOP 3. The introduced forms and lines would be inconsistent with the desert setting in the area. The degree of contrast introduced by the project's structures is considered high when compared to the natural elements in the KOP viewshed.

The photo simulation of the project's structures shows the proportionate size relationship to the natural elements in the view. The project structures would occupy a moderate portion of the total field-of-view of KOP 3. In addition, the structures would visually appear dominant when compared to other elements in the KOP view (Joshua trees and shrubs) but would appear smaller than the

VISUAL RESOURCES - FIGURE 8

Victorville 2 Hybrid Power Project- View From KOP 3 Looking East Toward Victorville 2 Site (Simulated Condition)



SOURCE: Ex. 200

mountains. The relative visual scale of the structures as simulated in the KOP 3 viewshed is considered to be high.

Although the project would introduce publicly visible structures to the KOP viewshed, the degree of view disruption introduced by the structures is considered to be moderate. There is no identified or designated scenic resource or vista in the KOP viewshed that would be blocked from view by project structures. A view of the Quartzite Mountain would be partially disrupted by the project from the KOP location. (Ex. 200, p. 4.12-11)

We find that the introduction of the Victorville 2 Hybrid project would substantially degrade the existing viewshed at KOP 3. However, taking into account the overall moderate visual sensitivity of the residential receptor at KOP 3, and overall moderately high visual change, the impacts are less than significant due primarily to the fact that very few viewers are exposed to this view.

4. Publicly Visible Water Vapor Plumes

The proposed Victorville 2 project includes a 563 MW gas-fired power plant that would include two 145-foot tall combustion exhaust stacks and a ten-cell mechanical-draft cooling tower. Under certain weather conditions, visible water vapor plumes would emanate from the exhaust stacks and cooling tower. Because water vapor plumes are generally associated with heavy industrial land uses, they tend to be regarded negatively by sensitive observers and as such could have an adverse effect on visual resources in the vicinity of the project.

The severity of the impacts created by the project's visible plumes depends on several factors, including the duration, and physical size of the plumes, the sensitivity of the viewers who will see the plumes, the distance between the plumes and the viewers, the visual quality of the existing viewshed, and whether any scenic landscape features would be blocked by the plumes.

As previously described, in the backdrop for both KOP 1 and 2 are the foothills. The predicted plume height of 136 feet would exceed the silhouette-line of the foothills as viewed from the KOP locations. Other than a small portion of the sky, the plumes would not block observed or documented important views or landscaped features. The color contrast of a potential emitted plume introduced to the KOP 1 and 2 viewsheds is anticipated to range between moderate and high. The visual change introduced by the publicly visible water vapor plumes is considered low to moderate and would not substantially degrade the existing viewsheds at KOP 1 and KOP 2.

From KOP 3, the plume when present would increase view blockage of the Quartzite Mountain range, but would not dominate the wide, panoramic views available for the residence there. The white plumes would contrast highly with the dark color of the mountains in the background. Therefore, overall visual change is moderate.

The proposed project's vapor plume would have a less than significant effect on visual resources. We adopt Condition of Certification **VIS-5** to verify the cooling tower design prior to construction.

5. Gas Turbine/HRSG Exhaust Plumes

Visible plumes from the exhaust stacks are predicted to occur only when operating under full load, without duct firing or solar operation. Therefore, we find that the gas turbine/HRSG exhausts will have a plume frequency of less than 20 percent of seasonal clear hours, and would therefore result in less than significant visual impacts. (Ex. 200, p. 4.12-13)

6. Light or Glare

During construction and operation, the project has the potential to generate offsite lighting impacts to surrounding properties and public viewing areas.

Existing evening light is very low due to the desert environment and sparse housing in the vicinity of the project site. The Applicant states that lighting impacts, lighting at the facility will be restricted to areas required for safety, security, and operation. (Ex. 1, p. 1-12) In addition, lighting will be directed onsite, and would be shielded from public view, and the use of non-glare fixtures, use of switches, sensors, and timers to minimize the time that lights are not needed for safety and security. (Ex. 20, p. 6.15-18)

There are many mitigation options available that are extremely effective at limiting off-site light. With the effective implementation of the mitigation measures recommended by the applicant and adoption of Conditions of Certification **VIS-2** and **VIS-3**, we find that the project would not adversely affect existing nighttime views. Proposed Condition of Certification **VIS-2** limits lighting during construction, and Condition of Certification **VIS-3** limits lighting during operation and requires submittal of a Lighting Mitigation Plan that includes sufficient mitigation to ensure that significant impacts are avoided.

The Victorville 2 project site is approximately 5,200 feet (one mile) from the Southern California Logistics Airport runway. Staff has recommended the installation of one, non-blinking red aviation obstruction light on each of the project's two, 145-foot tall HRSG stacks, both ends of the 68-foot cooling tower, and at each corner of the power block area. For a discussion on aviation safety, please refer to the **TRAFFIC AND TRANSPORTATION** section of this decision.

The red aviation warning lights would be visible to varying degrees to residents in the surrounding area and to travelers on National Trails Highway. Except for the aviation safety lights, all project lighting would include hoods/shields, would be directed downward or toward the area to be illuminated, and would be kept off when not in use (to the extent feasible) to minimize illumination of the night sky and impacts to surrounding properties and public viewing areas. (See, Condition of Certification **VIS-3**.) Considering the overall visual sensitivity of the KOP 1,

KOP 2, and KOP 3 viewsheds (moderately low to moderate), the illumination from the relatively few, unshielded, aviation warning lights would not be so substantial as to adversely affect nighttime views.

The solar field comprises many parallel rows of solar collectors, normally aligned on a north-south horizontal axis. Each solar collector has a linear parabolic-shaped reflector that focuses the sun's direct beam radiation on a linear receiver located at the apex of the parabola. The collectors track the sun from east to west during the day to ensure that the sun's energy is continuously focused on the linear receiver. In total, the solar thermal collection field will consist of approximately 250 acres, and is shown in **Visual Resources Figure 9** just left of the power plant structures. The solar array support structures are approximately nine feet in height with the array system approximately 20 feet in height. (Ex. 200, p. 4.12-15)

It is reasonable to expect that there may be a reflection or glow from the solar collectors. To minimize possible glare to the horse ranch residents on Colusa Road, we adopt Condition of Certification **VIS-6** which would require the project owner to plant additional tree screening around the perimeter of the horse ranch property if desired by the landowner. See **TRAFFIC AND TRANSPORTATION** section for further glare discussion.

With effective implementation of the applicant's proposed surface treatment, project structures would not be a source of substantial glare that could adversely affect existing daytime views. We adopt Condition of Certification **VIS-1** which requires submittal of a surface treatment plan for the power plant structures and electric transmission line poles.

7. Indirect Impacts

No anticipated indirect visual impacts were identified.

VISUAL RESOURCES - FIGURE 9

Victorville 2 Hybrid Power Project - Artist Rendering of Proposed Project



8. Cumulative Impacts

Existing light and glare levels in the vicinity of the project would increase cumulatively as a result of the project and existing and planned land uses. However, light and glare impacts are not anticipated to be cumulatively considerable if the project's impacts are mitigated according to the conditions of certification.

The Victorville 2 project would introduce to the KOP 1, KOP 2, and KOP 3 viewsheds publicly visible structures that are industrial in nature to an area that is currently undeveloped with no plans for large-scale projects anticipated in the immediate future. The view of the visible power plant structures and transmission lines would be visually noticeable but would not be so great as to constitute a substantial degradation of the existing visual setting. The Victorville 2 in combination with existing and planned projects would generate a less than significant cumulative visual effect to the KOP 1, KOP 2, and KOP 3 viewsheds.

Census 2000 information shows a minority population greater than 50 percent exists within a six-mile radius of the proposed power plant. However, all significant direct or cumulative impacts specific to visual resources resulting from the construction or operation of the project will be mitigated. Therefore, the proposed project would not introduce a significant visual resources related environmental justice issue.

FINDINGS AND CONCLUSIONS

Based on the evidence, we find and conclude as follows:

1. The introduction of proposed Victorville 2 structures and associated linear facilities would generate a less than significant visual impact with implementation of the Conditions of Certification adopted herein.

2. The introduction of the proposed Victorville 2 and associated linear facilities would generate a less than significant new source of light or glare to nighttime or daytime views with implementation of the Conditions of Certification adopted herein.
3. Publicly visible water vapor plumes generated by the Victorville 2 project would cause a less than significant visual impact.
4. With mitigation, the construction and operation of the Victorville 2 project would not cause any significant visual impacts to adjacent land uses, or contribute considerably to a cumulative visual impact.

We therefore conclude that, with implementation of the following Conditions of Certification, the project will not cause any significant direct, indirect, or cumulative impacts to visual resources.

CONDITIONS OF CERTIFICATION

SURFACE TREATMENT OF PROJECT STRUCTURES AND BUILDINGS

VIS-1 The project owner shall color and finish the surfaces of all project structures and buildings visible to the public to ensure that they: (1) minimize visual intrusion and contrast by blending with the landscape; (2) minimize glare; and (3) comply with local design policies and ordinances. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive.

The project owner shall submit a Surface Treatment Plan to the Compliance Project Manager (CPM) for review and approval. The treatment plan shall include:

- A. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed color(s) and finishes;
- B. A list of each major project structure, building, tank, pipe, and wall; transmission line towers and/or poles; and fencing, specifying the color(s) and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system;
- C. One set of color brochures or color chips showing each proposed color and finish;

- D. One set of 11" x 17" color photo simulations at life size scale of the proposed treatment for project structures, including structures treated during manufacture, from the Key Observation Points;
- E. A specific schedule for completing the treatment; and
- F. A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not request vendor treatment of any buildings or structures during their manufacture, or perform final field treatment on any buildings or structures, until the project owner has received Surface Treatment Plan approval by the CPM.

Verification: At least 90 days prior to specifying vendor color(s) and finish(es) for structures or buildings to be surface treated during manufacture, the project owner shall submit the proposed Surface Treatment Plan to the CPM for review and approval and simultaneously to the city of Victorville Department of Public Works and Planning, Development Services Division for review and comment. The project owner shall provide the CPM with the City's comments at least 30 days prior to the estimated date of providing paint specification to vendors.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revision(s) for review and approval by the CPM before any treatment is applied. Any modifications to the Surface Treatment Plan must be submitted to the CPM for review and approval.

Within ninety (90) days after the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and is ready for inspection; and shall submit one set of electronic color photographs from the Key Observation Points.

The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify a): the condition of the surfaces of all structures and buildings at the end of the reporting year; b) maintenance activities that occurred during the reporting year; and c) the schedule of maintenance activities for the next year.

CONSTRUCTION LIGHTING

- VIS-2** The project owner shall ensure that lighting for construction of the power plant is used in a manner that minimizes potential night lighting impacts, as follows:
- A. All lighting shall be of minimum necessary brightness consistent with worker safety and security;
 - B. All fixed position lighting shall be shielded/hooded, and directed downward and toward the area to be illuminated to prevent direct

illumination of the night sky and obtrusive spill light beyond the boundaries of the power plant site or the site of construction of ancillary facilities, including any security related boundaries;

C. Wherever feasible and safe and not needed for security, lighting shall be kept off when not in use; and

D. Complaints concerning adverse lighting impacts will be promptly addressed and mitigated.

Verification: Within seven days after the first use of construction lighting, the project owner shall notify the CPM that the lighting is ready for inspection. If the CPM requires modifications to the lighting, the project owner shall implement the necessary modifications within 15 days of the CPM's request and notify the CPM that the modifications have been completed.

Within 10 days of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the compliance General Conditions including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 10 days after completing implementation of the proposal. A copy of the complaint resolution form report shall be included in the subsequent Monthly Compliance Report following complaint resolution.

PERMANENT EXTERIOR LIGHTING

VIS-3 To the extent feasible, consistent with safety and security considerations and commercial availability, the project owner shall design and install all permanent exterior lighting such that a) light fixtures do not cause obtrusive spill light beyond the project site; b) lighting does not cause excessive reflected glare; c) direct lighting does not illuminate the nighttime sky; d) illumination of the project and its immediate vicinity is minimized, and e) lighting complies with local policies and ordinances.

The project owner shall submit to the CPM for review and approval and simultaneously to the city of Victorville Department of Public Works and Planning, Development Services Division for review and comment a Lighting Mitigation Plan that includes the following:

A. A process for addressing and mitigating complaints received about potential lighting impacts;

B. Lighting shall incorporate commercially available fixture hoods/shielding, with light directed downward or toward the area to be illuminated;

C. Light fixtures shall not cause obtrusive spill light beyond the project boundary;

- D. All lighting shall be of minimum necessary brightness consistent with operational safety and security; and
- E. Lights in high illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have (in addition to hoods) switches, timer switches, or motion detectors so that the lights operate only when the area is occupied.

Verification: At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to determine the required documentation for the Lighting Mitigation Plan.

At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to the city of Victorville Department of Public Works and Planning, Development Services Division for review and comment a Lighting Mitigation Plan. The project owner shall provide the city's comments to the CPM at least 10 days prior to the date lighting materials are ordered.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.

The project owner shall not order any exterior lighting until receiving CPM approval of the Lighting Mitigation Plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been installed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 10 days of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance General Conditions including a proposal to resolve the complaint, and a schedule for implementation. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days of complaint resolution.

LANDSCAPING

VIS-4 The project owner shall provide landscaping consistent with the conceptual Landscape Plan, dated July 23, 2007, shown on **Visual Resources Figure 10**. The landscaping shall comply with the city of Victorville municipal code requirements stipulated in section 18-60.140 Landscape Development.

The project owner shall submit to the CPM for review and approval and simultaneously to city of Victorville, Planning Division for review and

comment a Landscaping Plan whose proper implementation will satisfy these requirements.

The project owner shall not implement the plan until the project owner receives approval of the plan from the CPM. The planting must be completed by the start of commercial operation, and the planting must occur during the optimal planting season.

Verification: Prior to commercial operation and at least 90 days prior to installing the landscaping, the project owner shall submit the Landscaping Plan to the CPM for review and approval and simultaneously to city of Victorville Planning Division for review and comment. The project owner shall provide the city's comments 30 days prior to the installation of the landscaping.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM and city of Victorville Planning Division a plan with the specified revision(s) for review and approval by the CPM before the plan is implemented.

The project owner shall simultaneously notify the CPM and city of Victorville Planning Division within seven days after completing installation of the landscaping, that the landscaping is ready for inspection.

PLUME FORMATION

VIS-5 The project owner shall ensure that the cooling tower is designed and operated as presented to the Energy Commission during the licensing of the Victorville 2 Project.

The cooling tower shall be designed and operated so that the exhaust air flow rate per heat rejection rate (1) will not be less than 15.8 kilograms per second per megawatt when the ambient conditions are 18 degrees F and 60% relative humidity, (2) will not be less than 16.4 kilograms per second per megawatt when the ambient conditions are 59 degrees F and 60 percent relative humidity; and (3) will not be less than 16.0 kilograms per second per megawatt when the ambient conditions are 77 degrees F and 40% relative humidity, and will otherwise be designed consistent with the fogging frequency curve provided for the cooling tower.

Verification: At least 90 days prior to ordering the cooling towers, the project owner shall provide to the CPM for review the final design specifications of the cooling tower to confirm that design mass flow rates for the cooling tower cells meet the requirements. The project owner shall not order the cooling tower until notified by the CPM that this design requirement has been satisfied.

The project owner shall provide the CPM written documentation demonstrating that the cooling towers have consistently been operated within the above-specified design parameters (except as necessary to prevent damage to the cooling tower) in the project's Annual Compliance Report, and at anytime as

requested by the CPM. If requested by the CPM, the project owner shall provide the requested cooling tower operating data to the CPM at a date determined by the CPM.

The project owner's demonstration of compliance shall be determined using vendor supplied fan flow data, the number of cooling tower cells in operation, and hourly heat rejection values. In addition, compliance for ambient conditions between the three ambient points listed in the condition of certification shall be determined through interpolation.

If it is determined that the cooling tower has not operated within the specified design parameters, the project owner shall provide proposed remedial actions for CPM review and approval.

HORSE RANCH LANDSCAPE SCREENING

VIS-6 The project owner shall consult with the resident of the horse ranch on Colusa Road to determine the need, subject to approval of the CPM, to provide additional landscape screening along the property line of the horse ranch property, specifically in the area of the residential structure which faces the power plant facilities. This will assist in screening the residential home from views of the Victorville 2 facility and minimize glare from the solar array.

Verification: Prior to project start-up and at least 90 days prior to installing any landscaping, the project owner shall submit the proposed landscape-screening plan to the property owners of the horse ranch for review and comment, and to the CPM for approval. The project owner shall submit the property owners comments with the plan submitted to the CPM. Prior to operation, the project owner shall notify the CPM that the landscaping has been installed. If the landowner does not want landscaping to be planted on their property, the project owner shall provide written documentation to the CPM from the landowner verifying this.

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Appendix A: *Laws, Ordinances,
Regulations, and
Standards*

Appendix B: *Exhibit List*

Appendix C: *Proof of Service List*



APPENDICES

AIR QUALITY

Applicable LORS	Description
Federal	New Source Review: Best Available Control Technology (BACT) and Offset requirements
	Title V: Federal permit
	New Source Performance Standard: 75 ppm NO _x and 150 ppm SO _x @15% oxygen (O ₂).
State	California Health and Safety Code: Permitting of source needs to be consistent with approved Clean Air Plan.
Local	Regulation IV: Particulate Matter and Visible Emissions: Emissions shall not be darker than Ringelmann No. 1 for a continuous three-minutes, and no more than 0.01 grains PM per standard dry cubic foot.
	Regulation XI: Standards for Electric Utility Operations and Stationary Gas Turbines: NO _x emissions from these sources shall not exceed 42 ppm@15%O ₂
	Regulation XII: Federal Operating Permits: Acid Rain: Requires continuous emission monitoring system
	Regulation XIII: New Source Review: BACT offsets and new sources shall not cause or make worse a violation of an Ambient Air Quality Standard.

ALTERNATIVES

California Environmental Quality Act Criteria

The “Guidelines for Implementation of the California Environmental Quality Act,” Title 14, California Code of Regulation, Section 15126.6(a), provides direction by requiring an evaluation of the comparative merits of “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.” In addition, the analysis must address the “no project” alternative. [Cal. Code Regs., tit. 14, §15126.6(e).]

The range of alternatives is governed by the “rule of reason” which requires consideration only of those alternatives necessary to permit informed decision-making and public participation. CEQA states that an environmental document does not have to consider an alternative where the effect cannot be reasonably ascertained and whose implementation is remote and speculative. [Cal. Code Regs., tit. 14, §15126.6(f)(3).]

BIOLOGICAL RESOURCES

Applicable Law	Description
Federal	
Federal Endangered Species Act (Title 16, United States Code, section 1531 et seq., and Title 50, Code of Federal Regulations, part 17.1 et seq.)	Designates and provides for protection of threatened and endangered plant and animal species, and their critical habitat.
Migratory Bird Treaty (Title 16, United States Code, sections 703 through 711)	Makes it unlawful to take or possess any migratory nongame bird (or any part of such migratory nongame bird) as designated in the Migratory Bird Treaty Act.
Clean Water Act (Title 33, United States Code, sections 1251 through 1376, and Code of Federal Regulations, part 30, section 330.5(a)(26))	Requires the permitting and monitoring of all discharges to surface water bodies. Section 404 requires a permit from the U.S. Army Corps of Engineers (USACE) for a discharge from dredged or fill materials into waters of the U.S., including wetlands. Section 401 requires a permit from a Regional Water Quality Control Board (RWQCB) for the discharge of pollutants. By federal law, every applicant for a federal permit or license for an activity which may result in a discharge into a California water body, including wetlands, must request state certification that the proposed activity will not violate state and federal water quality standards.
Bald and Golden Eagle Protection Act (Title 16, United States Code section 668)	This law provides for the protection of the bald eagle and the golden eagle by prohibiting, except under certain specified conditions, the take, possession, and commerce of such birds. The 1972 amendments increased penalties for violating provisions of the Act or regulations issued pursuant thereto and strengthened other enforcement measures. Rewards are provided for information leading to arrest and conviction for violation of the Act.
State	
California Endangered Species Act of 1984 (Fish and Game Code, sections 2050 through 2098)	Protects California's rare, threatened, and endangered species.

California Code of Regulations (Title 14, sections 670.2 and 670.5)	Lists the plants and animals of California that are declared rare, threatened, or endangered.
Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515)	Designates certain species as fully protected and prohibits the take of such species or their habitat unless for scientific purposes (see also California Code of Regulations Title 14, section 670.7).
Nest or Eggs (Fish and Game Code section 3503)	Protects California's birds by making it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird.
Migratory Birds (Fish and Game Code section 3513)	Protects California's migratory birds by making it unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame birds.
Significant Natural Areas (Fish and Game Code section 1930 et seq.)	Designates certain areas such as refuges, natural sloughs, riparian areas, and vernal pools as significant wildlife habitat.
California Environmental Quality Act (CEQA), Public Resources Code section 15380	CEQA defines rare species more broadly than the definitions for species listed under the state and federal Endangered Species Acts. Under section 15830, species not protected through state or federal listing but nonetheless demonstrable as "endangered" or "rare" under CEQA should also receive consideration in environmental analyses. Included in this category are many plants considered rare by the California Native Plant Society (CNPS) and some animals on CDFG's Special Animals List.
Streambed Alteration Agreement (Fish and Game Code sections 1600 et seq.)	Regulates activities that may divert, obstruct, or change the natural flow or the bed, channel, or bank of any river, stream, or lake in California designated by CDFG in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. Impacts to vegetation and wildlife resulting from disturbances to waterways are also reviewed and regulated during the permitting process.
California Native Plant Protection Act of 1977 (Fish and Game Code section 1900 et seq.)	Designates state rare, threatened, and endangered plants.

California Desert Native Plants Act of 1981 (Food and Agricultural Code section 80001 et seq.)	Protects non-listed California desert native plants from unlawful harvesting on both public and private lands in Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego counties. Unless issued a valid permit, wood receipt, tag, and seal by the commissioner or sheriff, harvesting, transporting, selling, or possessing specific desert plants is prohibited.
Local	
San Bernardino County General Plan	The Conservation Element includes several goals and policies relating to biological resources in the county. These policies aim to conserve the County’s natural resources, including rare species, significant habitats, and common desert species and ecosystems.
San Bernardino County Development Code (Title 8, division 9, chapter 4, section 89.0420)	The code specifies “regulated desert native plants” that, with some stipulations, require a permit from the Agricultural Commissioner or other applicable County Reviewing Authority prior to removal or harvesting. Such plants include smoke tree (<i>Psoralea arguta</i>); mesquite (<i>Prosopis</i> spp.); century plants, nolin, and yuccas (all Agavaceae); creosote (<i>Larrea tridentata</i>) rings; and all Joshua trees (<i>Yucca brevifolia</i>).
City of Victorville General Plan	The Resource Element of the city’s General Plan includes general policies aimed at protecting biological resources. These policies encourage protection of sensitive plants and wildlife. The general plan encourages riparian habitat protection and management by implementing the Mojave River Corridor Plan.
City of Victorville Municipal Code (Title 13, chapter 13.33)	This code protects Joshua trees in Victorville. An inventory of Joshua trees, tree relocation/removal plan, and city inspection are required prior to applying for a grading permit.
City of Hesperia Municipal Code (Development Code, title 16, article II, chapter 16.24)	This code also specifies certain desert plants to be protected. These plants include those specified in the San Bernardino County Development Code and in the California Desert Native Plant Protection Act as described earlier.
Southern California Logistics Airport (SCLA) Specific Plan	Victorville 2 is located within the SCLA Specific Plan area, which provides development requirements for developing and/or reusing the SCLA area. The plan requires biological monitoring during construction and includes procedures for protecting biological resources.

CULTURAL RESOURCES

Applicable Law	Regulation
State	
Public Resources Code, section 21083.2	The lead agency may require reasonable steps to preserve a unique archaeological resource in place. Otherwise, the project applicant is required to fund mitigation measures to the extent prescribed in this section. This section also allows a lead agency to make provisions for archaeological resources unexpectedly encountered during construction, which may require the project applicant to fund mitigation and delay construction in the area of the find (CEQA).
California Code of Regulations, Title 14, section 15064.5, subsections (d), (e), and (f)	Subsection (d) allows the project applicant to develop an agreement with Native Americans on a plan for the disposition of remains from known Native American burials impacted by the project. Subsection (e) requires the landowner (or authorized representative) to rebury Native American remains elsewhere on the property if other disposition cannot be negotiated within 24 hours of accidental discovery and required construction stoppage. Subsection (f) directs the lead agency to make provisions for historical or unique archaeological resources that are accidentally discovered during construction, which may require the project applicant to fund mitigation and delay construction in the area of the find (CEQA Guidelines).
California Code of Regulations, Title 14, section 15126.4(b)	This section describes options for the lead agency and for the project applicant to arrive at appropriate, reasonable, enforceable mitigation measures for minimizing significant adverse impacts from a project. It prescribes the manner of maintenance, repair, stabilization, restoration, conservation, or reconstruction as mitigation of a project's impact on a historical resource; discusses documentation as a mitigation measure; and advises mitigation through avoidance of damaging effects on any historical resource of an archaeological nature, preferably by preservation in place, or by data recovery through excavation if avoidance or preservation in place is not feasible. Data recovery must be conducted in accordance with an adopted data recovery plan (CEQA Guidelines).

Applicable Law	Regulation
Public Resources Code 5024.1	The California Register of Historical Resources (CRHR) is established and includes: properties determined eligible for the National Register of Historic Places (NRHP) under four criteria (A. events; B. important persons; C. distinctive construction; and D. data); State Historic Landmark No. 770 and subsequent numbered landmarks; points of historical interest recommended for listing by the State Historical Resources Commission; and historical resources, historic districts, and landmarks designated or listed by a city or county under a local ordinance. CRHR eligibility criteria are: (1) events, (2) important persons, (3) distinctive construction, and (4) data.
Public Resources Code 5020.1 (h)	“Historic district” means a definable unified geographic entity that possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.
California Health and Safety Code, Section 7050.5	This code makes it a misdemeanor to disturb or remove human remains found outside a cemetery. This code also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.
Local	
County of San Bernardino 2007 General Plan (County of San Bernardino 2007)	Conservation Element outlines a series of policies, measures, and programs to manage cultural resources in compliance with CEQA and SB-18 to ensure the identification, protection, and enhancement of significant archaeological and historical resources within the county, in consultation with Native American tribes.
City of Victorville General Plan (Victorville 1997)	Resource Element contains policies to identify and protect or salvage significant archaeological resources and to differentiate between sites and structures that are locally significant and those that might qualify for state or national recognition.

FACILITY DESIGN

Applicable LORS	Description
Federal	Title 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health standards
State	2007 California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations)
Local	San Bernardino County regulations and ordinances
General	American National Standards Institute (ANSI) American Society of Mechanical Engineers (ASME) American Welding Society (AWS) American Society for Testing and Materials (ASTM)

GEOLOGY AND PALEONTOLOGY

Applicable Law	Description
Federal	The proposed Victorville 2 is not located on federal land. There are no federal LORS for geologic hazards and resources for this site.
State	
California Building Code (2007)	The CBC, 2007, includes a series of standards used in project investigation, design, and construction (including grading and erosion control).
Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code (PRC), Section 2621–2630	Mitigates against surface fault rupture of known active faults beneath occupied structures. Requires disclosure to potential buyers of existing real estate and a 50-foot setback for new occupied buildings. The site is not located within a designated Alquist-Priolo fault zone.
The Seismic Hazards Mapping Act, PRC Section 2690–2699	Areas are identified that are subject to the effects of strong ground shaking, such as liquefaction, landslides, tsunamis, and seiches.
PRC, Chapter 1.7, Sections 5097.5 and 30244	Regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.
Warren-Alquist Act, PRC, Sections 25527 and 25550.5(i)	The Warren-Alquist Act requires the Energy Commission to “give the greatest consideration to the need for protecting areas of critical environmental concern, including, but not limited to, unique and irreplaceable scientific, scenic, and educational wildlife habitats; unique historical, archaeological, and cultural sites...” With respect to paleontologic resources, the Energy Commission relies on guidelines from the Society for Vertebrate Paleontology (SVP), indicated below.
California Environmental Quality Act (CEQA), PRC Sections 15000 et seq., Appendix G	Mandates that public and private entities identify the potential impacts on the environment during proposed activities. Appendix G outlines the requirements for compliance with CEQA and provides a definition of significant impacts on a fossil site.

Applicable Law	Description
Society for Vertebrate Paleontology (SVP), 1995	The “Measures for Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontological Resources: Standard Procedures” is a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. The measures were adopted in October 1995 by SVP, a national organization of professional scientists.
Local	
San Bernardino County 2007 Development Code, Chapter 82.20	Defines criteria for site evaluation for paleontological resources in the county, including preliminary field surveys, monitoring during construction, and specimen recovery; also defines qualifications for professional paleontologists.
City of Victorville Building Code Enforcement	Requires compliance with a number of development standards, including grading requirements and acquisition of building permits.

HAZARDOUS MATERIALS

Applicable Law	Description
Federal	
The Superfund Amendments and Reauthorization Act of 1986 (42 USC §9601 et seq.)	Contains the Emergency Planning and Community Right To Know Act (also known as SARA Title III).
The Clean Air Act (CAA) of 1990 (42 USC 7401 et seq. as amended)	Establishes a nationwide emergency planning and response program, and imposes reporting requirements for businesses that store, handle, or produce significant quantities of extremely hazardous materials.
The CAA Section on Risk Management Plans (42 USC §112(r))	Requires states to implement a comprehensive system to inform local agencies and the public when a significant quantity of such materials is stored or handled at a facility. The requirements of both SARA Title III and the CAA are reflected in the California Health and Safety Code, section 25531, et seq.
49 CFR 172.800	Requires that the suppliers of hazardous materials prepare and implement security plans in accordance with U.S. Department of Transportation (DOT) regulations.
49 CFR Part 1572, Subparts A and B	Requires that suppliers of hazardous materials ensure that their hazardous material drivers comply with personnel background security checks.
The Clean Water Act (CWA) (40 CFR 112)	Aims to prevent the discharge or threat of discharge of oil into navigable waters or adjoining shorelines. Requires a written spill prevention, control, and countermeasures (SPCC) plan to be prepared for facilities that store oil that could leak into navigable waters.
Title 49, Code of Federal Regulations, Part 190	Outlines gas pipeline safety program procedures.
Title 49, Code of Federal Regulations, Part 191	Addresses the transportation of natural and other gases by pipeline. Requires preparation of annual reports, incident reports, and safety-related condition reports. Also requires operators of pipeline systems to notify the U.S. Department of Transportation (DOT) of any reportable incident by telephone and submit a follow-up written report within 30 days.

Title 49, Code of Federal Regulations, Part 192	Addresses transportation of natural and other gases by pipeline: Requires minimum federal safety standards, specifies minimum safety requirements for pipelines, and includes material selection, design requirements, and corrosion protection. The safety requirements for pipeline construction vary according to the population density and land use that characterize the surrounding land. This part also contains regulations governing pipeline construction, which must be followed for Class 2 and Class 3 pipelines, and requirements for preparing a pipeline integrity management program.
6 CFR Part 27	The CFATS (Chemical Facility Anti-Terrorism Standard) regulation of the U.S. Department of Homeland Security (DHS) that requires facilities that use or store certain hazardous materials to submit information to the DHS so that a vulnerability assessment can be conducted to determine what certain specified security measures shall be implemented.
State	
California Health and Safety Code, section 25531 to 25543.4	The California Accidental Release Program (Cal-ARP) requires the preparation of a Risk Management Plan (RMP) and Off-site Consequence Analysis (OCA) and submittal to the local Certified Unified Program Authority (CUPA) for approval.
Title 8, California Code of Regulations, Section 5189	Requires facility owners to develop and implement effective safety management plans to ensure that large quantities of hazardous materials are handled safely. While these requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process.
Title 8, California Code of Regulations, Section 5189	Sets forth requirements for design, construction, and operation of the vessels and equipment used to store and transfer ammonia. These sections generally codify the requirements of several industry codes including the American Society for Material Engineering (ASME) Pressure Vessel Code, the American National Standards Institute (ANSI) K61.1, and the National Boiler and Pressure Vessel Inspection Code. These codes apply to anhydrous ammonia but are also used to design storage facilities for aqueous ammonia.
California Health and Safety Code, Section 41700	Requires that "No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property."

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65)	Prevents certain chemicals that cause cancer and reproductive toxicity from being discharged into sources of drinking water.
Local	
City of Victorville, Municipal Code, Section 8.05.020	Adopts the Uniform Fire Code, Year 2000 edition, in its entirety, including provisions for the storage and handling of hazardous materials, fire protection, emergency venting, and hazardous materials thresholds for permitting requirements.

The VFD acts as the Certified Unified Program Authority (CUPA), and is responsible for reviewing RMPs and Hazardous Materials Business Plans. With regard to seismic safety issues, the proposed Victorville 2 site is located in Seismic Risk Zone 4. The construction and design of buildings and vessels storing hazardous materials will meet the seismic requirements of the Uniform Building Code.

LAND USE

Applicable Law	Description
Federal	None
State	None
Local	
<u>City of Victorville</u>	
Southern California International Airport (SCIA) Comprehensive Airport Land Use Plan (CALUP)	The SCIA CALUP provides for the orderly growth of the Southern California Logistics Airport (SCLA; formerly SCIA) and the area surrounding it, excluding existing land uses. Its primary function is to protect the public's health, safety, and welfare by promoting orderly expansion of the airport and adoption of land use measures by local public agencies that minimize exposure to excessive noise and safety hazards near airports. The SCIA/SCLA CALUP works in concert with the city of Victorville General Plan and Municipal Code.
General Plan (revised July 13, 2007)	The city of Victorville General Plan was certified by Resolution #97-63 on July 15, 1997 and revised on July 13, 2007. Goals, policies, and implementation measures and programs are projected for implementation by 2015, consistent with the regional planning efforts of the Southern California Association of Governments (SCAG), as contained in the Regional Comprehensive Plan and Guide. References to land use are included in all elements of the Victorville General Plan. However, development of the SCLA is specifically addressed in the SCLA Community Plan Element (see below).
General Plan - Southern California Logistics Airport Community Plan Element	The Southern California Logistics Airport Community Plan Element (SCLA Community Plan) is intended to promote the development of compatible land uses in the area influenced by airport operations and safeguard the general welfare of the inhabitants within the vicinity of the airport. The SCLA Community Plan incorporates and consolidates applicable portions of the city of Victorville General Plan Land Use, Housing, Circulation, Safety, Resource, and Noise Elements and adapts them, as necessary, to support the reuse of the former George Air Force Base (AFB) and development of adjoining properties within the SCLA boundaries.
Municipal Code	The city of Victorville Municipal Code contains ordinances that deal with planning, building, subdivision, permitting, and zoning standards, requirements, and restrictions. Title 18, also known as the Zoning Ordinance of the city of Victorville, specifically provides regulations that implement the goals, objectives, and policies of the Victorville General Plan, pursuant to the mandated provisions of State Planning and Zoning Law, California Environmental Quality Act (CEQA), and other applicable state and local requirements (VVMC). The SCLA Specific Plan references and incorporates applicable portions of the Victorville Municipal Code as it relates to development within the SCLA Specific

	<p>Plan boundaries (see discussion below).</p> <p>The following sections are specifically applicable to the proposed project:</p> <ul style="list-style-type: none"> • §13.33 Preservation and Removal of Joshua Trees • §17.92 Subdivision Ordinance • §18.44 Heavy Industrial (M-2) Zoning District • §18.60 Off-street Parking Ordinance • §18.68 Temporary Uses • §18.74 Conditional Use Permits
<p>Southern California Logistics Airport Specific Plan (February 2004)</p>	<p>The SCLA Specific Plan serves as a tool for implementing the reuse plan established by the Victor Valley Economic Development Authority (VVEDA), pursuant to the Base Closure and Realignment Act (BCRA), as well as provisions of the city of Victorville Municipal Code and related policies of the city of Victorville General Plan. The main intent of the SCLA Specific Plan is to enable the city of Victorville to more adequately assess the detailed planning and environmental review procedures for development within the SCLA Specific Plan Area.</p>
<p>Industrial Design Guidelines (Planning Commission Policy PCP-07-005)</p>	<p>Establishes industrial design guidelines for development in areas zoned Industrial District within the city of Victorville’s jurisdiction.</p>
<p>City of Hesperia General Plan</p>	<p>The City of Hesperia General Plan was approved in August of 2006 and specifically provides regulations that implement the goals, objectives, and policies of the Hesperia General Plan, pursuant to the mandated provisions of State Planning and Zoning Law, California Environmental Quality Act (CEQA), and other applicable state and local requirements.</p>
<p>City of Hesperia Municipal Code</p>	<p>The City of Hesperia Zoning Regulations, specifically Section 16.16.075 allows for the construction of public utilities and public service uses, which includes electrical substations and towers.</p>

NOISE AND VIBRATION

Applicable Law	Description
Federal	
(OSHA): 29 U.S.C. § 651 et seq.	Protects workers from the effects of occupational noise exposure
State	
(Cal-OSHA): Cal. Code Regs., tit. 8, §§ 5095-5099	Protects workers from the effects of occupational noise exposure
Local	
San Bernardino County Ordinance – Title 8, Div. 7, Ch. 9, § 87.0905 Noise	Project noise at residential receptors is limited to 45 dBA nighttime and 55 dBA daytime. Construction noise exempt from 7 a.m. to 7 p.m.
City of Victorville Municipal Code - Ch. 13.01 Noise Control	Project noise at residential receptors is limited to 60 dBA nighttime and 70 dBA daytime. Construction noise is exempt.
City of Victorville General Plan Noise Element	New residential development within 65 dBA contour would require a noise study.

FEDERAL

Under the Occupational Safety and Health Act of 1970 (29 USC § 651 et seq.), the Department of Labor, Occupational Safety and Health Administration (OSHA) adopted regulations designed to protect workers against the effects of occupational noise exposure. (29 CFR § 1910.95.) These regulations define permissible noise exposure levels in terms of the amount of time a worker is exposed. The regulations further specify a hearing conservation program that monitors the noise to which workers are exposed, assures that workers are made aware of overexposure to noise, and requires periodic testing of workers' hearing to detect any degradation.

There are no federal laws governing off-site (community) noise.

The only available guidance for the evaluation of power plant vibration is the guidelines published by the Federal Transit Administration (FTA) for assessing the impacts of groundborne vibration associated with the construction of rail projects. These guidelines have been used by other jurisdictions to assess the groundborne vibration of other types of projects. The FTA-recommended vibration standards are expressed in terms of "vibration level," which is calculated from the peak particle velocity measured from groundborne vibration. The FTA measure of the threshold of perception is 65 VdB, which correlates to a peak particle velocity of about 0.002 inches per second (in/sec).

The FTA measure of the threshold for architectural damage for conventional sensitive structures is 100 VdB, which correlates to a peak particle velocity of about 0.2 in/sec.

STATE

California Government Code section 65302(f) encourages local governmental entities to perform noise studies and implement a noise element as part of their respective general plans. In addition, the California Office of Planning and Research has published guidelines for preparing noise elements, including recommendations for evaluating the compatibility of various land uses with community noise exposure.

The California Occupational Safety and Health Administration (Cal-OSHA) has promulgated occupational noise exposure regulations (Cal. Code Regs., tit. 8, §§ 5095-5099) that set employee noise exposure limits. These standards are equivalent to federal OSHA standards.

LOCAL

San Bernardino County Ordinance

Title 8, Division 7, Chapter 9, section 87.0905 of the San Bernardino County Ordinance limits the noise that a project can produce at various types of receptors. Noise at residences must not exceed 45 dBA nighttime and 55 dBA daytime; noise at commercial receptors must not exceed 60 dBA anytime; and noise at industrial receptors may not exceed 70 dBA anytime. Construction noise is exempt from these restrictions between 7 a.m. and 7 p.m.

City of Victorville Municipal Code

Chapter 13.01 Noise Control of the City of Victorville Municipal Code limits the noise that a project can produce at various types of receptors. Noise at residences must not exceed 60 dBA nighttime and 70 dBA daytime; noise at commercial receptors must not exceed 75 dBA anytime; and noise at industrial receptors must not exceed 80 dBA anytime. If the existing ambient noise level exceeds these limits, the maximum allowable noise level is increased to reflect the ambient level.

City of Victorville General Plan Noise Element

The City of Victorville General Plan Noise Element requires that any new residential development in an area in which ambient noise levels exceed 65 dBA CNEL requires a noise study to determine noise insulation requirements.

POWER PLANT EFFICIENCY

No federal, state, or local/county laws, ordinances, regulations, and standards (LORS) apply to the efficiency of this project.

POWER PLANT RELIABILITY

No federal, state, or local/county laws, ordinances, regulations, or standards (LORS) apply to the reliability of this project.

PUBLIC HEALTH

Applicable Law	Description
Federal	
Clean Air Act section 112 (42 U.S. Code section 7412)	Requires new sources which emit more than 10 tons per year of any specified hazardous air pollutant (HAP) or more than 25 tons per year of any combination of HAPs to apply Maximum Achievable Control Technology (MACT).
State	
California Health and Safety Code sections 39650 et seq.	These sections mandate the California Air Resources Board (CARB) and the Department of Health Services to establish safe exposure limits for toxic air pollutants and identify pertinent best available control technologies (BACT). They also require that the new source review rule for each air pollution control district include regulations that require new or modified procedures for controlling the emission of toxic air contaminants.
California Health and Safety Code section 41700	This section states that “no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”
California Code of Regulations, Title 22, section 60306	Requires that whenever a cooling system uses recycled water in conjunction with an air conditioning facility and a cooling tower that creates a mist that could come into contact with employees or members of the public, a drift eliminator shall be used, and chlorine, or other biocides shall be used to treat the cooling system re-circulating water to minimize the growth of Legionella and other micro-organisms.
Local	
Mojave Desert Air Quality Management District Rule 1320	Requires safe exposure limits for Toxic Air Pollutants (TACs), use of best available control technology and new source review (NSR).

SOCIOECONOMICS

Applicable Law	Description
State	
<p>California Education Code, Section 17620</p> <p>California Government Code, Sections 65996-65997</p>	<p>The governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement for the purpose of funding the construction or reconstruction of school facilities.</p> <p>These sections include provisions for school district levies against development projects. As amended by Senate Bill (SB) 50 (stats. 1998, ch. 407, sec. 23), these sections state that, except for fees established under Education Code 17620, state and local public agencies may not impose fees, charges, or other financial requirements to offset the cost of school facilities.</p>
The Local Agency Military Base Recovery Area (LAMBRA) Program	<p>The Local Agency Military Base Recovery Area (LAMBRA) program was created by legislation (AB 693) enacted in 1993 to promote business growth and create jobs at designated closed and realigned bases in California. Tenants may be eligible for state tax credits and benefits for qualified companies. Many LAMBRA communities may offer several of the following local incentives:</p> <ul style="list-style-type: none"> • Reduction or elimination of local permit and construction related fees • Expeditious processing of plans and permits • Reduced utility rates • Low interest revolving loans
Local	
<p>City of Victorville Ordinance 1301</p> <p>City of Victorville Ordinance 1451</p>	<p>City of Victorville Ordinance 1301 was enacted in accordance with the city of Victorville's General Plan to mitigate the overburdening of existing facilities. City of Victorville Ordinance 1301 establishes a development impact fee to be charged upon the issuance of all building permits for industrial projects to fund needed improvements.</p> <p>City of Victorville Ordinance 1451 was enacted in accordance with the city of Victorville's General Plan to provide street lighting, curbs, gutters, and fire hydrants where they are not otherwise provided. Infrastructure fees would be charged on all Victorville 2 building permits.</p>

SOIL AND WATER RESOURCES

Applicable Law	Description
Federal	
Clean Water Act (33 U.S.C. Section 1251 et seq.)	The Clean Water Act (33 USC § 1257 et seq.) requires states to set standards to protect water quality, which includes regulation of stormwater and wastewater discharges during construction and operation of a facility. California established its regulations to comply with the Clean Water Act under the Porter-Cologne Water Quality Control Act of 1967.
Resource Conservation and Recovery Act	The Resource Conservation Recovery Act (RCRA) of 1976 (40 CFR Part 260 et seq.) seeks to prevent surface and groundwater contamination, sets guidelines for determining hazardous wastes, and identifies proper methods for handling and disposing of those wastes.
Farmland Protection Policy Act	The Farmland Protection Policy Act requires the assessment of the project impacts on farmlands.
State	
California Water Code Section 13260	Requires filing with the appropriate Regional Water Quality Control Board (RWQCB) a report of waste discharge that could affect the water quality of the state, unless the requirement is waived pursuant to Water Code section 13269.
California Water Code Section 13551	Requires the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such water is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.
California Water Code Section 13552.6	Specifically identifies the use of potable domestic water for cooling towers, if suitable recycled water is available, as a waste or unreasonable use of water. The availability of recycled water is determined based on criteria listed in Section 13550 by the State Water Resources Control Board. (SWRCB).
California Code of Regulations, Title 17	Title 17, Division 1, Chapter 5, addresses the requirements for backflow prevention and cross connections of potable and non-potable water lines.
California Code of Regulations, Title 22	Title 22, Division 4, Chapter 15, requires the California Department of Health Services (DHS) to review and approve the wastewater treatment systems to ensure they meet tertiary treatment standards allowing use of recycled water for industrial processes such as steam production and cooling water. DHS also specifies Secondary Drinking Water Standards in terms of Consumer Acceptance Contaminant Levels, including TDS ranging from a recommended level of 500 mg/l, an upper level of 1,000 mg/l and a short term level of 1,500 mg/l.

California Code of Regulations, Title 23	Title 23, Division 3, Chapter 15, requires the RWQCB to issue Waste Discharge Requirements specifying conditions for protection of water quality as applicable.
Water Recycling Act of 1991 (Water Code 13575 et. seq)	The Water Recycling Act states that retail water suppliers, recycled water producers, and wholesalers should promote the substitution of recycled water for potable and imported water in order to maximize the appropriate cost-effective use of recycled water in CA.
California Water Code (CWC) Section 13146	Requires that state offices, departments and boards in carrying out activities, which affect water quality, shall comply with state policy for water quality control unless otherwise directed or authorized by statute, in which case they shall indicate to the SWRCB in writing their authority for not complying with such policy.
CWC Section 13523	Requires that a Regional Board, shall prescribe water reuse requirements for water, which is to be used or proposed to be used as recycled water after consultation with and upon receipt of recommendations from the State Department of Health Services, and if it determines such action to be necessary to protect the public health, safety, or welfare.
CWC Section 13550	Requires the use of recycled water for industrial purposes subject to recycled water being available and upon a number of criteria including: provisions that the quality and quantity of the recycled water are suitable for the use, the cost is reasonable, the use is not detrimental to public health, and the use will not impact downstream users or biological resources.
CWC Section 13552.8	States that any public agency may require the use of recycled water in cooling towers if recycled water is available, meets the requirements set forth in Section 13550, that there would be no adverse impacts to any existing water right and that if public exposure to cooling tower mist is possible, appropriate mitigation or control is provided.
The California Safe Drinking Water and Toxic Enforcement Act	This Act (California Health & Safety Code Section 25249.5 et seq.) prohibits actions contaminating drinking water with chemicals known to cause cancer or possessing reproductive toxicity. The RWQCB administers the requirements of the Act.
California Constitution, Article X, Section 2	This section requires that the water resources of the State be put to beneficial use to the fullest extent possible and states that the waste, unreasonable use or unreasonable method of use of water is prohibited.
The Porter-Cologne Water Quality Control Act of 1967, Water Code Sec 13000 et seq.	Requires the SWRCB and the nine RWQCBs to adopt water quality criteria to protect state waters. Those regulations require that the RWQCBs issue Waste Discharge Requirements specifying conditions for protection of water quality as applicable.

Local	
Mojave Basin Adjudication	The Mojave Basin Adjudication establishes a system of water management actions designed to cure the regional groundwater and surface water overdraft, to ensure equitable distribution of the water supply, and to mitigate water development impacts to the environment. The Adjudication imposes requirements both on individual groundwater producers and on subareas of the Mojave Basin. Regional water use and implementation of the Adjudication is now managed by the court-appointed Watermaster, the Mojave Water Agency (MWA), according to the terms of the Adjudication.
Victor Valley Water Reclamation Authority (VWVRA), Wastewater Ordinance Article 08	Specifies discharge limits for wastewater as managed by the Victor Valley Water Reclamation Authority.
San Bernardino County Code Title 3, Division 5, Chapter 1 and Hydrology Manual	Specifies requirements for preparation and application of a Water Quality Management Plan for managing stormwater during project operations to protect water quality; The Hydrology Manual provides design criteria for design of stormwater systems.
San Bernardino County Code Title 3, Division 3, Chapter 6 Domestic Water Sources and Systems	Provides for monitoring and enforcement of all applicable laws and orders for public water supply systems with less than two hundred service connections within San Bernardino County.
City of Victorville Grading Permit, Ordinance 1500	The City of Victorville requires a grading permit for earthmoving activities exceeding 50 cubic yards.
City of Victorville Standard Specifications for Public Improvements	The City of Victorville provides standard specifications for stormwater drainage systems.
State Policies and Guidance	
State Water Resources Control Board (SWRCB) Res. 77-1	State Water Resources Control Board Resolution 77-1 encourages and promotes recycled water use for non-potable purposes.

<p>SWRCB Resolutions 75-58 and 88-63</p>	<p>The principal policy of the SWRCB that addresses the specific siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling (adopted by the Board on June 19, 1976, by Resolution 75-58). This policy states that use of fresh inland waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. Resolution 75-58 defines brackish waters as “all waters with a salinity range of 1,000 to 30,000 mg/l” and fresh inland waters as those “which are suitable for use as a source of domestic, municipal, or agricultural water supply and which provide habitat for fish and wildlife”. In a May 23, 2002 letter from the Chairman of the SWRCB to Energy Commission Commissioners, the principal of the policy was confirmed ‘that the lowest quality cooling water reasonably available from both a technical and economic standpoint should be utilized as the source water for any evaporative cooling process utilized at these facilities’.</p> <p>Resolution 88-63 defines suitability of sources of drinking water. The total dissolved solids must exceed 3,000 mg/L for it not to be considered suitable, or potentially suitable, for municipal or domestic water supply.</p>
<p>Integrated Energy Policy Report (Public Resources Code, Div. 15, Section 25300 et seq)</p>	<p>In the 2003 IEPR, consistent with SWRCB Policy 75-58 and the Warren-Alquist Act, the Energy Commission adopted a policy stating they will approve the use of fresh water for cooling purposes by power plants only where alternative water supply sources and alternative cooling technologies are shown to be “environmentally undesirable” or “economically unsound.” Additionally, the Energy Commission will require zero liquid discharge technologies unless such technologies are shown to be “environmentally undesirable” or “economically unsound”.</p>

TRAFFIC AND TRANSPORTATION

Applicable Law	Description
Federal	
Code of Federal Regulations (CFR) Title 14, Chapter 1, Part 77	Includes standards for determining obstructions in navigable airspace. Sets forth requirements for notice to the Federal Aviation Administration of certain proposed construction or alteration. Also, provides for aeronautical studies of obstructions to air navigation to determine their effect on the safe and efficient use of airspace.
Title 49, Subtitle B	Includes procedures and regulations pertaining to interstate and intrastate transport (includes hazardous materials program procedures), and provides safety measures for motor carriers and motor vehicles who operate on public highways.
State	
California Vehicle Code, Division 2, Chapter. 2.5, Div. 6, Chap. 7, Div. 13, Chap. 5, Div. 14.1, Chap. 1 & 2, Div. 14.8, Div. 15	Includes requirements pertaining to licensing, size, weight and load of vehicles operated on highways, safe operation of vehicles, and the transportation of hazardous materials.
California Streets and Highway Code, Division 1 & 2, Chapter 3 & Chapter 5.5	Includes requirements for the care and protection of State and County highways, and provisions for the issuance of written permits.
City of Victorville General Plan – Transportation and Circulation Element. Southern California Logistics Airport (SCLA) Specific Plan Comprehensive Land Use Plan – Phase Two – SCLA	<p>Primarily concerned with identifying goals, policies, and implementation measures that will relieve existing road congestions while expanding the circulation network to serve outlying areas where future growth is anticipated. It includes standards to govern the design of various roadways in the community, and identifies the location where improvements to existing roadways should be programmed as well as indicating the general location of rights-of-way for future roads.</p> <p>Serves as a tool for implementing the reuse plan established by the Victor Valley Economic Authority and the main intent is to enable the City to more adequately assess the detailed planning and environmental review procedures for development within the SCLA Specific Plan area. The discussion about circulation notes that the combination of business, industrial, rail and airport uses will necessitate improvements on existing roads.</p>

<p>County of San Bernardino General Plan – Circulation Element</p>	<p>Intended to protect and promote the safety and welfare of airport users, residents, and visitors to the cities of Victorville and Adelanto, while promoting the continued operation of the airport.</p> <p>Lays the groundwork for and promotes the development of a coordinated, multi-modal countywide transportation system and infrastructure capacity to meet the needs of all people living, working, or visiting the county and all economic segments of the community.</p>
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TRANSMISSION LINE SAFETY AND NUISANCE

Applicable Laws	Description
Aviation Safety	
Federal	
Title 14, Part 77 of the Code of Federal Regulations (CFR), "Objects Affecting the Navigable Air Space"	Describes the criteria used to determine the need for a Federal Aviation Administration (FAA) "Notice of Proposed Construction or Alteration" in cases of potential obstruction hazards.
FAA Advisory Circular No. 70/7460-1G, "Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space"	Addresses the need to file the "Notice of Proposed Construction or Alteration" (Form 7640) with the FAA in cases of potential for an obstruction hazard.
FAA Advisory Circular 70/460-1G, "Obstruction Marking and Lighting"	Describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Part 77 of the CFR.
Interference with Radio Frequency Communication	
Federal	
Title 47, CFR, Section 15.2524, Federal Communications Commission (FCC)	Prohibits operation of devices that can interfere with radio-frequency communication.
State	
California Public Utilities Commission (CPUC) General Order 52 (GO-52)	Governs the construction and operation of power and communications lines to prevent or mitigate interference.
Audible Noise	
Local	
San Bernardino County General Plan, Noise Element	References the County's Ordinance Code for noise limits.
City of Victorville Noise Element	Sets sound level limits at residences and outdoor activity areas.
City of Victorville Municipal Code, Chapter 13.01.	Sets noise limits according to land use zoning and time of day.

Hazardous and Nuisance Shocks	
State	
CPUC GO-95, "Rules for Overhead Electric Line Construction"	Governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements.
Title 8, California Code of Regulations (CCR) Section 2700 et seq. "High Voltage Safety Orders"	Specifies requirements and minimum standards for safely installing, operating, working around, and maintaining electrical installations and equipment.
National Electrical Safety Code	Specifies grounding procedures to limit nuisance shocks. Also specifies minimum conductor ground clearances.
Industry Standards	
Institute of Electrical and Electronics Engineers (IEEE) 1119, "IEEE Guide for Fence Safety Clearances in Electric-Supply Stations"	Specifies the guidelines for grounding-related practices within the right-of-way and substations.
Electric and Magnetic Fields	
State	
GO-131-D, CPUC "Rules for Planning and Construction of Electric Generation Line and Substation Facilities in California"	Specifies application and noticing requirements for new line construction including EMF reduction.
CPUC Decision 93-11-013	Specifies CPUC requirements for reducing power frequency electric and magnetic fields.
Industry Standards	
American National Standards Institute (ANSI/IEEE) 644-1944 Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines	Specifies standard procedures for measuring electric and magnetic fields from an operating electric line.
Fire Hazards	
State	
14 CCR Sections 1250-1258, "Fire Prevention Standards for Electric Utilities"	Provides specific exemptions from electric pole and tower firebreak and conductor clearance standards and specifies when and where standards apply.

TRANSMISSION SYSTEM ENGINEERING

1. California Public Utilities Commission (CPUC) General Order 95 (GO-95), *Rules for Overhead Electric Line Construction*, sets forth uniform requirements for the construction of overhead lines. Compliance with this order ensures both adequate service and the safety of both the public and the people who build, maintain, and operate overhead electric lines.
2. CPUC General Order 128 (GO-128), *Rules for Construction of Underground Electric Supply and Communications Systems*, sets forth uniform requirements and minimum standards for underground supply systems to ensure adequate service and the safety of both the public and the people who build, maintain, and operate underground electric lines.
3. The National Electric Safety Code, 1999, provides electrical, mechanical, civil, and structural requirements for overhead electric line construction and operation.
4. The combined NERC/WECC (North American Electric Reliability Corporation/Western Electricity Coordinating Council) planning standards provide system performance standards for assessing the reliability of the interconnected transmission system. These standards require continuity of service as their first priority and the preservation of interconnected operation as their second. Some aspects of NERC/WECC standards are either more stringent or more specific than the either agency's standards alone. These standards are designed to ensure that transmission systems can withstand both forced and maintenance outage system contingencies while operating reliably within equipment and electric system thermal, voltage, and stability limits. These standards include reliability criteria for system adequacy and security, system modeling data requirements, system protection and control, and system restoration. Analysis of the WECC system is based to a large degree on Section I.A of WECC standards, *NERC and WECC Planning Standards with Table I and WECC Disturbance-Performance Table*, and on Section I.D, *NERC and WECC Standards for Voltage Support and Reactive Power*. These standards require that power flows and stability simulations verify defined performance levels. Performance levels are defined by specifying allowable variations in thermal loading, voltage and frequency, and loss of load that may occur during various disturbances. Performance levels range from no significant adverse effects inside and outside a system area during a minor disturbance (such as the loss of load from a single transmission element) to a catastrophic loss level designed to prevent system cascading and the subsequent blackout of islanded areas and millions of consumers during a major transmission disturbance (such as the loss of multiple 500-kV lines along a common right-of-way, and/or of multiple large generators). While the controlled loss of generation or system separation is permitted under certain specific circumstances, this sort of major uncontrolled loss is not permitted (WECC, 2002).

5. NERC's reliability standards for North America's electric transmission system spell out the national policies, standards, principles, and guidelines that ensure the adequacy and security of the nation's transmission system. These reliability standards provide for system performance levels under both normal and contingency conditions. While these standards are similar to the combined NERC/WECC standards, certain aspects of the combined standards are either more stringent or more specific than the NERC performance standards alone. NERC's reliability standards apply to both interconnected system operations and to individual service areas (NERC, 2006).

6. California ISO planning standards also provide the standards and guidelines that ensure the adequacy, security, and reliability of the state's member grid facilities. These standards also incorporate the combined NERC/WECC and NERC standards. These standards are also similar to the NERC/WECC or NERC standards for transmission system contingency performance. However, the California ISO standards also provide additional requirements that are not found in either the WECC/NERC or NERC standards. The California ISO standards apply to all participating transmission owners interconnecting to the California ISO-controlled grid. They also apply to non-member facilities that impact the California ISO grid through their interconnections with adjacent control grids (California ISO, 2002a).

7. California ISO/FERC (Federal Energy Regulatory Commission) electricity tariffs contain guidelines for building all transmission additions/upgrades within the California ISO-controlled grid. (California ISO, 2003a).

VISUAL RESOURCES

Applicable Law	Description
Federal	The project site does not involve federal managed lands, a recognized National Scenic Byway or All-American Road, or a designated State Scenic Highway. However, the National Trails Highway, also known as Route 66 and located east of the project site has been designated as a national preservation route (National Route Preservation Bill, enacted in 1999). The Bill was established to preserve significant views along Route 66, but there are no historical sites within the stretch of highway discussed in this visual analysis. Only small portions of present day Route 66 (Barstow area) are part of the original route.
State	
Local	
City of Victorville General Plan Land Use Element	Goal 4: Includes goal of Victorville as “an aesthetically pleasing community with development standards which reflect community needs”.
City of Victorville Municipal Code	Chapter 18.60.140: lists standards for landscape materials that are harmonious with the desert environment.
County of San Bernardino Desert Region Circulation and Infrastructure Plan	The National Trail-Route 66 is listed and mapped as a San Bernardino County scenic highway. As discussed above, although the program was established to preserve significant views along Route 66, there are no historical sites along this stretch of highway near the project site. Only small portions of present day Route 66 (Barstow area) are part of the original route. It is more than likely that the county will concentrate their efforts in this area of California in preserving the historic value of Route 66.
Southern California Logistics Airport Specific (SCLA) Plan	The SCLA Specific Plan says landscape development standards should encourage an attractive, visually coherent development compatible with local climatic conditions.

WASTE MANAGEMENT

Applicable Law	Description
Federal	
<p>Title 42, United States Code (U.S.C.), §§6901, et seq.</p> <p>Solid Waste Disposal Act of 1965 (as amended and revised by the Resource Conservation and Recovery Act of 1976, et al).</p>	<p>The Solid Waste Disposal Act, as amended and revised by the Resource Conservation and Recovery Act (RCRA) et al, establishes requirements for the management of solid wastes (including hazardous wastes), landfills, underground storage tanks, and certain medical wastes. The statute also addresses program administration, implementation and delegation to states, enforcement provisions and responsibilities, as well as research, training, and grant funding provisions.</p> <p>RCRA Subtitle C establishes provisions for the generation, storage, treatment, and disposal of hazardous waste, including requirements addressing:</p> <ul style="list-style-type: none"> • Generator record keeping practices that identify quantities of hazardous wastes generated and their disposition; • Waste labeling practices and use of appropriate containers; • Use of a manifest when transporting wastes; • Submission of periodic reports to the United States Environmental Protection Agency (USEPA) or other authorized agency; and • Corrective action to remediate releases of hazardous waste and contamination associated with RCRA-regulated facilities. <p>RCRA Subtitle D establishes provisions for the design and operation of solid waste landfills.</p> <p>RCRA is administered at the federal level by USEPA and its ten regional offices. The Pacific Southwest regional office (Region 9) implements USEPA programs in California, Nevada, Arizona, and Hawaii.</p>
<p>Title 42, U.S.C., §§ 9601, et seq.</p> <p>Comprehensive Environmental Response, Compensation and Liability Act</p>	<p>The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), also known as Superfund, establishes authority and funding mechanisms for cleanup of uncontrolled or abandoned hazardous waste sites, as well as cleanup of accidents, spills, or emergency releases of pollutants and contaminants into the environment. Among other things, the statute addresses:</p> <ul style="list-style-type: none"> • Reporting requirements for releases of hazardous substances; • Requirements for remedial action at closed or abandoned hazardous waste sites, and brown fields; • Liability of persons responsible for releases of hazardous substances or waste; and • Requirements for property owners/potential buyers to conduct “all appropriate inquiries” into previous ownership and uses of the property to 1) determine if hazardous substances have been or may have been released at the site, and 2) establish that the owner/buyer did not cause or contribute to the release. A Phase I Environmental Site

	Assessment is commonly used to satisfy CERCLA “all appropriate inquiries” requirements.
Title 40, Code of Federal Regulations (CFR), Subchapter I – Solid Wastes.	<p>These regulations were established by USEPA to implement the provisions of the Solid Waste Disposal Act and RCRA (described above). Among other things, the regulations establish the criteria for classification of solid waste disposal facilities (landfills), hazardous waste characteristic criteria and regulatory thresholds, hazardous waste generator requirements, and requirements for management of used oil and universal wastes.</p> <ul style="list-style-type: none"> • Part 246 addresses source separation for materials recovery guidelines. • Part 257 addresses the criteria for classification of solid waste disposal facilities and practices. • Part 258 addresses the criteria for municipal solid waste landfills. • Parts 260 through 279 address management of hazardous wastes, used oil, and universal wastes (i.e., batteries, mercury-containing equipment, and lamps). <p>USEPA implements the regulations at the federal level. However, California is an authorized state so the regulations are implemented by state agencies and authorized local agencies in lieu of USEPA.</p>
Title 49, CFR, Parts 172 and 173. Hazardous Materials Regulations	U.S. Department of Transportation established standards for transport of hazardous materials and hazardous wastes. The standards include requirements for labeling, packaging, and shipping of hazardous materials and hazardous wastes, as well as training requirements for personnel completing shipping papers and manifests. Section 172.205 specifically addresses use and preparation of hazardous waste manifests in accordance with Title 40, CFR, section 262.20.
State	
California Health and Safety Code (HSC), Chapter 6.5, §25100, et seq. Hazardous Waste Control Act of 1972, as amended.	<p>This California law creates the framework under which hazardous wastes must be managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA program. It also provides for the designation of California-only hazardous wastes and development of standards (regulations) that are equal to or, in some cases, more stringent than federal requirements.</p> <p>The California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) administers and implements the provisions of the law at the state level. Certified Unified Program Agencies (CUPAs) implement some elements of the law at the local level.</p>

<p>Title 22, California Code of Regulations (CCR), Division 4.5.</p> <p>Environmental Health Standards for the Management of Hazardous Waste</p>	<p>These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with the federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Generator standards also include requirements for record keeping, reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters.</p> <p>The standards addressed by Title 22, CCR include:</p> <ul style="list-style-type: none"> • Identification and Listing of Hazardous Waste (Chapter 11, §§66261.1, et seq.) • Standards Applicable to Generator of Hazardous Waste (Chapter 12, §§66262.10, et seq.) • Standards Applicable to Transporters of Hazardous Waste (Chapter 13, §§66263.10, et seq.) • Standards for Universal Waste Management (Chapter 23, §§66273.1, et seq.) • Standards for the Management of Used Oil (Chapter 29, §§66279.1, et seq.) • Requirements for Units and Facilities Deemed to Have a Permit by Rule (Chapter 45, §§67450.1, et seq.) <p>The Title 22 regulations are established and enforced at the state level by DTSC. Some generator standards are also enforced at the local level by CUPAs.</p>
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<p>HSC, Chapter 6.11 §§25404 – 25404.9</p> <p>Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)</p>	<p>The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the six environmental and emergency response programs listed below.</p> <ul style="list-style-type: none"> • Aboveground Storage Tank Program • Business Plan Program • California Accidental Release Prevention (CalARP) Program • Hazardous Material Management Plan / Hazardous Material Inventory Statement Program • Hazardous Waste Generator / Tiered Permitting Program • Underground Storage Tank Program <p>The state agencies responsible for these programs set the standards for their programs while local governments implement the standards. The local agencies implementing the Unified Program are known as Certified Unified Program Agencies (CUPAs). The Victorville Fire Department, Hazardous Materials Division is the CUPA for the Victorville 2 project.</p> <p>Note: The Waste Management analysis only considers application of the Hazardous Waste Generator/Tiered Permitting element of the Unified Program. Other elements of the Unified Program may be addressed in the Hazardous Materials and/or Worker Health and Safety analysis sections.</p>
<p>Title 27, CCR, Division 1, Subdivision 4, Chapter 1, §15100, et seq.</p> <p>Unified Hazardous Waste and Hazardous Materials Management Regulatory Program</p>	<p>While these regulations primarily address certification and implementation of the program by the local CUPAs, the regulations do contain specific reporting requirements for businesses.</p> <ul style="list-style-type: none"> • Article 9 – Unified Program Standardized Forms and Formats (§§ 15400-15410). • Article 10 – Business Reporting to CUPAs (§§15600 – 15620).
<p>Public Resources Code, Division 30, §40000, et seq.</p> <p>California Integrated Waste Management Act of 1989.</p>	<p>The California Integrated Waste Management Act of 1989 (as amended) establishes mandates and standards for management of solid waste. Among other things, the law includes provisions addressing solid waste source reduction and recycling, standards for design and construction of municipal landfills, and programs for county waste management plans and local implementation of solid waste requirements.</p>

<p>Title 14, CCR, Division 7, §17200, et seq.</p> <p>California Integrated Waste Management Board</p>	<p>These regulations further implement the provisions of the California Integrated Waste Management Act and set forth minimum standards for solid waste handling and disposal. The regulations include standards for solid waste management, as well as enforcement and program administration provisions.</p> <ul style="list-style-type: none"> • Chapter 3 -- Minimum Standards for Solid Waste Handling and Disposal. • Chapter 3.5 – Standards for Handling and Disposal of Asbestos Containing Waste. • Chapter 7 – Special Waste Standards. • Chapter 8 – Used Oil Recycling Program. • Chapter 8.2 – Electronic Waste Recovery and Recycling
<p>HSC, Division 20, Chapter 6.5, Article 11.9, §25244.12, et seq.</p> <p>Hazardous Waste Source Reduction and Management Review Act of 1989 (also known as SB 14).</p>	<p>This law was enacted to expand the State’s hazardous waste source reduction activities. Among other things, it establishes hazardous waste source reduction review, planning, and reporting requirements for businesses that routinely generate more than 12,000 kilograms (~ 26,400 pounds) of hazardous waste in a designated reporting year. The review and planning elements are required to be done on a four year cycle, with a summary progress report due to DTSC every 4th year.</p>
<p>Title 22, CCR, §67100.1 et seq.</p> <p>Hazardous Waste Source Reduction and Management Review.</p>	<p>These regulations further clarify and implement the provisions of the Hazardous Waste Source Reduction and Management Review Act of 1989 (noted above). The regulations establish the specific review elements and reporting requirements to be completed by generators subject to the Act.</p>
<p>Local</p>	
<p>City of Victorville Municipal Code, Chapter 6.49 and City of Victorville Fire Regulations</p> <p>City of Victorville Fire Department, Hazardous Materials Division</p>	<p>The City of Victorville Municipal Code and Fire Regulations establish requirements for the generation, use, storage, and disposal of hazardous materials and hazardous wastes within the city.</p> <p>The City of Victorville Fire Department serves as the local Certified Unified Program Agency (CUPA) authorized to implement the provisions of the six California Unified Program elements (noted above in the State LORS section).</p>
<p>County General Plan Public Facilities Element</p>	<p>Will ensure all new development complies with applicable provisions of County Integrated Solid Waste Management Plan.</p>

WORKER SAFETY AND FIRE PROTECTION

Applicable Law	Description
Federal	
29 U.S. Code sections 651 et seq (Occupational Safety and Health Act of 1970)	This Act mandates safety requirements in the workplace, with the purpose of “[assuring] so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources” (29 USC § 651).
29 CFR sections 1910.1 to 1910.1500 (Occupational Safety and Health Administration Safety and Health Regulations)	These sections define the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector.
29 CFR sections 1952.170 to 1952.175	These sections provide federal approval of California’s plan for enforcement of its own safety and health requirements, in lieu of most of the federal requirements found in 29 CFR §1910.1 to 1910.1500.
State	
8 CCR all applicable sections (Cal/OSHA regulations)	Requires that all employers follow these regulations as they pertain to the work involved. This includes regulations pertaining to safety matters during the construction, commissioning, and operation of power plants, as well as safety around electrical components, fire safety, and hazardous materials usage, storage, and handling.
24 CCR section 3, et seq.	Incorporates the current addition of the Uniform Building Code.
California Health and Safety Code, section 25531 to 25543.4	The California Accidental Release Program (Cal-ARP) requires the preparation of a Risk Management Plan (RMP) and Off-site Consequence Analysis (OCA) and submittal to the local Certified Unified Program Authority (CUPA) for approval.
Health and Safety Code sections 25500 to 25541	Requires a Hazardous Materials Business plan detailing emergency response plans for hazardous materials emergencies at a facility.

Local (or locally enforced)	
City of Victorville Municipal Code Title 6 (Hazardous Materials Releases) and Title 8 (Fire)	Adopts state requirements and guidelines governing hazardous materials release response plans and inventories, as well as the California fire code for the city.
2001 Edition of California Fire Code and all applicable NFPA standards (24 CCR Part 9)	NFPA standards are incorporated into the California Uniform Fire Code. The fire code contains general provisions for fire safety, including road and building access, water supplies, fire protection and life safety systems, fire-resistive construction, storage of combustible materials, exits and emergency escapes, and fire alarm systems. The city of Victorville uses the Uniform Fire Code, year 2000 edition, in its entirety; it includes provisions for the storage and handling of hazardous materials including fire protection, emergency venting, and hazardous materials thresholds for permitting requirements.
Title 24, California Code of Regulations (24 CCR § 3, et seq.)	The California Building Code is comprised of 11 parts containing building design and construction requirements as they relate to fire, life, and structural safety. It incorporates current editions of the Uniform Building Code, including the electrical, mechanical, energy, and fire codes applicable to the project.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE
STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION
FOR THE VICTORVILLE 2
HYBRID POWER PROJECT

Docket No. 07-AFC-1

EXHIBIT LIST

APPLICANT'S EXHIBITS

- EXHIBIT 1** Application for Certification (AFC) Section 1.0 – Executive Summary, Project Description, dated 06/29/06. Sponsored by Applicant, received into evidence on April 3, 2008.
- EXHIBIT 2** Application for Certification Section 2.0 – Project Description, dated June 29, 2006. Sponsored by Applicant, received into evidence on April 3, 2008.
- EXHIBIT 3** AFC Section 3.0 – Project Objectives and Need, Project Description, dated June 29, 2006. Sponsored by Applicant, received into evidence on April 3, 2008.
- EXHIBIT 4** Application for Certification, Section 4.0 – Closure, various sections, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 5** Application for Certification, Section 5.0 - Project Alternatives dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 6** Application for Certification, Section 6.1 – General, various topics, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 7** Application for Certification, Section 6.2 – Agriculture and Soils dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 8** Application for Certification, AFC Section 6.3 – Air Quality, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 9** Application for Certification, Section 6.4 – Biological Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 10** Application for Certification, Section 6.5 – Cultural Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 11** Application for Certification, Section 6.6 – Geologic Hazards and Resources dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 12** Application for Certification, Section 6.7 – Hazardous Material Handling, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 13** Application for Certification, Section 6.8 – Land Use, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 14** Application for Certification, Section 6.9 – Noise, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 15** Application for Certification, Section 6.10 – Paleontological Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 16** Application for Certification, Section 6.11 – Public Health, dated June 20, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 17** Application for Certification, Section 6.12 – Socioeconomics, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 18** Application for Certification, Section 6.13 – Traffic and Transportation, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 19** Application for Certification, Section 6.14 – Transmission Line Safety and Nuisance, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 20** Application for Certification, Section 6.15 – Visual Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 21** Application for Certification, Section 6.16 - Waste Management, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 22** Application for Certification, Section 6.17 – Water Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 23** Application for Certification, Section 6.18 – Worker Safety, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 24** Application for Certification, Appendix A – Surrounding Parcels, Project Description, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 25** Application for Certification, Appendix B – Site Parcels, Project Description, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 26** Application for Certification, Appendix C – Preliminary Geotech Investigation Report, Geology, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 27** Application for Certification, Appendix D – Engineering Design Criteria, Facility Design, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 28** Application for Certification, Appendix E – Therminol MSDS, Facility Design, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 29** Application for Certification, Appendix F – System Impact Study, Facility Design, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 30** Application for Certification, Appendix G – Air Quality, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 31** Application for Certification, Appendix H – Biological Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 32** Application for Certification, Appendix I – Cultural Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 33** Application for Certification, Appendix J – Paleontological Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 34** Application for Certification, Appendix K – Public Health Supporting Documentation, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 35** Application for Certification, Appendix L – SCLA Letter, Traffic and Transportation, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 36** Application for Certification, Appendix M – Phase I Environmental Site Assessment, Soil and Water Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 37** Application for Certification, Appendix N – Will Serve Letters, Water Resources, dated June 29, 2006. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 38** Application for Confidential Designation of Cultural Resources Assessment Report dated March 8, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 39** Draft Confidential Cultural Resources Assessment Report, dated March 13, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 40** Re-submittal Application for Confidentiality for Cultural Resources Assessment Report, dated March 8, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 41** Application for Certification Volume III Data Adequacy Supplement, various topics, dated April 6, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 42** Confidential Submittal – Emission Offset Diligence for Victorville Power Project, Air Quality, dated April 5, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 43** Applications for Authority to Construct and Permit to Operate, Air Quality, dated April 19, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 44** Memorandum of Understanding between CA Dept of Fish & Game and Victor Valley Wastewater Reclamation Authority re: Discharge to the Mojave River Transition Zone, Water Resources, dated April 26, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 45** Victorville Application for Prevention of Significant Deterioration Permit, Air Quality, dated May 3, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 46** Biological Assessment, dated May 3, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 47** Responses to Informal Data Requests Addressing Socioeconomics & Location of BLM Lands, various topics, dated May 15, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 48** Supplement to Application for Prevention of Significant Deterioration Permit, Air Quality, dated July 2, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 49** Intentionally omitted.
- EXHIBIT 50** Responses to CURE Data Requests, Set 1, various topic areas, dated July 12, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 51** Application Completeness Determination - PSD Permit Application, Air Quality, dated June 13, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 52** Applicant's Responses to CEC Staff Data Requests #1-110; POS attached, various topics, dated July 23, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 53** Request for Confidential Designation – Confidential Responses to Data Request Set 1 (1-111), Data Requests 24-50: Cultural Resources, dated July 23, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 54** Victorville 2 Fogging Frequency Curve, Air Quality, dated August 1, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 55** Clarification of VV2 Project Socioeconomic Information, dated August 3, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 56** Intentionally omitted.
- EXHIBIT 57** Victorville 2 Hybrid Power Project Responses to CURE's Data Requests, Set 2, various topic areas, dated August 28, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 58** August 6, 2007 Questions Regarding Victorville 2 PSD Application, Air Quality, dated September 4, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 59** Responses to CEC Supplemental Data Request, various topic areas, dated September 12, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 60** Correction of Error in Primary Records; Submission of New Archeological Site Records; Revision to Figure 5; Confirmation of Archeological Test Plan: Request for Confidential Designation, Cultural Resources, dated September 17, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 61** Email to J. Kessler and attachment re: Write- up summarizing the engineering aspects of the solar array, Traffic and Transportation, dated September 24, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 62** Letter of Transmittal from ENSR to John Kessler with Supplemental Cultural Resources Data Request Responses (DRs 29, 32, 33, and 36), dated September 27, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 63** Letter to Mojave Desert Air Quality Management District re Preliminary Determination of Compliance, Air Quality, dated October 1, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 64** Submitted a document entitled, "Parabolic Trough Mirror Design Prevents Escape of Reflected Incident Rays", Traffic and Transportation, dated October 9, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 65** Applicant's Response to Questions Concerning HTF VV2 Leak Detection, Hazardous Materials, dated October 9, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 66** Supplementary Traffic and Transportation Evaluation, dated October 19, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 67** Supplementary Responses to Data Requests 37 and 85 from Data Request Set 1 (1-110), Cultural Resources and Traffic and Transportation, dated November 28, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 68** Letter from SCLA re Request for Agency Comments on the PSA, Traffic and Transportation, dated December 6, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 69** Application for Confidential Designation for Responses to Data Request Set 1 and Cultural Resources, dated November 26, 2007. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 70** City of Victorville's Comments on the PSA, various topic areas, dated January 2, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 71** Application for Confidential Designation for Responses to Data Request Set 1 Request 41, dated January 21, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 72** Repeated Application for Confidentiality RE: Archeological Survey of the Proposed Potable Water Line Route, Cultural Resources, dated January 8, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 73** Comments of ENSR on Vegetation Impacts of Nitrogen Deposition and Vegetation Impacts of Cooling Tower Drift, Air Quality, dated January 8, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 74** Biological Assessment Addendum, dated January 17, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 75** Letter from Inland Energy Regarding Supplement to Application for Prevention of Significant Deterioration, Air Quality, dated January 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 76** Letter Comments of Abengoa Solar Inc. Regarding Solar Glare, Traffic and Transportation, dated January 24, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 77** WITHDRAWN
- EXHIBIT 78** WITHDRAWN

- EXHIBIT 79** Table 2.1: Hydrologic Analyses for Pre and Post Development Conditions, Soil and Water Resources, dated February 5, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 80** Intentionally omitted.
- EXHIBIT 81** Intentionally omitted.
- EXHIBIT 82** Cultural Resources, Confidentiality Application, Victorville 2 Hybrid Power Project, Docket No. 07-AFC-1 (letter only), dated February 15, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 83** Biological Opinion for the Victorville 2 Hybrid Power Project, San Bernardino County, California (1-8-07-F-67), dated February 19, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 84** Intentionally omitted.
- EXHIBIT 85** Letter from the City requesting that the Biological Opinion be included as part of the PSD permit application; Biological Opinion, Air Quality, dated January 23, 2008 attached, February 25, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 86** Cover letter with attachment regarding Desert Tortoise Translocation Plan from Inland Energy; POS attached, Biological Resources, dated March 3, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 87** Application for Incidental Take of Endangered Species, Biological Resources, dated March 11, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 88** Biological Assessment Second Addendum, March 11, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 89** WITHDRAWN
- EXHIBIT 90** Declaration of Elizabeth Copley regarding Land Use and Socioeconomics, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 91** Declaration of Gregory Scott Wolffe regarding Public Health, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 92** Declaration of Sally Bilodeau regarding Soil and Water Resources and Geology, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 93** Declaration of David T. Larsen regarding Transmission Facilities and Facility Design, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 94** Declaration of Merlyn Paulson regarding Visual Resources, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 95** Declaration of Arrie Bachrach regarding Project Alternatives, Waste Management, Water Resources, Worker Safety, and Various Project Management Issues, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 96** Declaration of Cara Corsetti regarding Paleontology, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 97** Declaration of Thomas M. Barnett regarding Project Description, Facility Design, Transmission Line, Efficiency, Reliability, and Traffic and Transportation (Non-Vehicular), dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.

- EXHIBIT 98** Declaration of Sara Head regarding Air Quality, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 99** Declaration of James M. Allan regarding Cultural Resources, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 100** Declaration of Russell Kingsley regarding Hazardous Materials, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 101** Declaration of Ramon Nugent regarding Noise, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 102** Declaration of John D. Wilson regarding Traffic and Transportation (Vehicular), dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 103** CV of Thomas Egan, Biological Resources, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 104** CV of Alice Karl, Biological Resources, dated March 28, 2008. Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 105** Revised declaration of Thomas Egan, dated April 2, 2008, Sponsored by Applicant, and received into evidence on April 3, 2008.
- EXHIBIT 106** Declaration of Thomas Barnett regarding Dry Cooling, dated April 1, 2008, Sponsored by Applicant, and received into evidence on April 3, 2008.

STAFF EXHIBITS

- EXHIBIT 200** Final Staff Assessment, dated March 19, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 201** Declaration of Dr. Philip Leitner, dated March 18, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 202** Mojave Desert Air Quality Management District, Final Determination of Compliance, dated January 10, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 203** Air Quality Testimony of Tuan Ngo, dated March 28, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 204** Biological Resources Testimony of Rick York, dated March 28, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 205** Cultural Resources Testimony of Beverly Bastain, dated March 28, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 206** Noise Testimony of Steve Baker, dated March 28, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 207** Traffic and Transportation Testimony of Jim Adams, dated March 28, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 208** Visual Resources Testimony of David Flores, dated March 28, 2008. Sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 209** Additional Testimony of John Kessler re Alternatives, dated March 27, 2008, Sponsored by Staff, and received into evidence on April 3, 2008.

- EXHIBIT 210** Additional Testimony of Matthew Layton and Tuan Ngo re Air Quality, dated April 2, 2008, sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 211** Additional testimony of John Kessler re Biological resources, dated April 2, 2008, sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 212** Additional testimony of John Kessler re Hazardous Materials, dated April 2, 2008, sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 213** Additional testimony of John Kessler re Soil and Water resources, dated April 2, 2008, sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 214** Additional testimony of John Kessler re Traffic and Transportation, dated April 2, 2008, sponsored by Staff, and received into evidence on April 3, 2008.
- EXHIBIT 215** Declaration of John Kessler, dated April 2, 2008, sponsored by Staff, and Received into evidence on April 3, 2008.
- EXHIBIT 216** Preliminary approval letter from CAISO to Southern California Edison, Dated October 26, 2006, sponsored by staff, and received into evidence on June 17, 2008.
- EXHIBIT 217** Supplemental testimony on revised Conditions of Certification BIO-12 and BIO-18, sponsored by Staff, and received into evidence on June 17, 2008.

INTERVENOR CURE EXHIBITS

- EXHIBIT 300** Prehearing Conference Statement, dated March 28, 2008, Exhibit A, an email from Laura Yannayon, Environmental Protection Agency, Region 9, to Alan De Salvio, Mojave Desert Air Quality Management District, dated August 24, 2007. Sponsored by Intervenor CURE, and received into evidence on April 3, 2008.
- EXHIBIT 301** Prehearing Conference Statement, dated March 28, 2008, Exhibit B, Mojave Desert Air Quality Management District Rule Development Calendar, 2008. Sponsored by Intervenor CURE, and received into evidence on April 3, 2008.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE
STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION
FOR THE VICTORVILLE 2
HYBRID POWER PROJECT

Docket No. 07-AFC-1

PROOF OF SERVICE

INSTRUCTIONS: All parties shall 1) send an original signed document plus 12 copies OR 2) mail one original signed copy AND e-mail the document to the web address below, AND 3) all parties shall also send a printed OR electronic copy of the documents that shall include a proof of service declaration to each of the individuals on the proof of service:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 07-AFC-1
1516 Ninth Street, MS-14
Sacramento, CA 95814-5512
docket@energy.state.ca.us

APPLICANT

Jon B. Roberts
City Manager,
City of Victorville
14343 Civic Drive
P.O. Box 5001
Victorville, CA 92393-5001
JRoberts@ci.victorville.ca.us

APPLICANT'S CONSULTANTS

Thomas M. Barnett
Inland Energy, Inc.
South Tower, Suite 606
3501 Jamboree Road
Newport Beach, CA 92660
TBarnett@inlandenergy.com

Sara Head
Environmental Manager
ENSR
1220 Avenida Acaso
Camarillo, CA 90012
SHead@ensr.aecom.com

COUNSEL FOR APPLICANT

Michael J. Carroll, Project Attorney
Latham & Watkins, LLP
650 Town Center Drive, Suite 2000
Costa Mesa, CA 92626
Michael.Carroll@lw.com

INTERESTED AGENCIES

Electricity Oversight Board
770 L Street, Suite 1250
Sacramento, CA 95814
esaltmarsh@eob.ca.gov

INTERVENORS

California Unions for Reliable Energy
(CURE)
c/o Gloria D. Smith
Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
gsmith@adamsbroadwell.com

Alliance for a Cleaner Tomorrow (ACT)
c/o Arthur S. Moreau
Klinedinst PC
501 West Broadway, Suite 600
San Diego, CA 92101
amoreau@klinedinstlaw.com

ENERGY COMMISSION

JAMES BOYD
Commissioner and Presiding Member
JBoyd@energy.state.ca.us

JACKALYNE PFANNENSTIEL
Commissioner and Associate Member
JPfannen@energy.state.ca.us

Raoul Renaud
Hearing Officer
rrenaud@energy.state.ca.us

John Kessler
Project Manager
JKessler@energy.state.ca.us

Caryn Holmes
Staff Counsel
CHolmes@energy.state.ca.us

Public Adviser's Office
PAO@energy.state.ca.us

DECLARATION OF SERVICE

I, _____, declare that on _____, I deposited copies of the attached _____ in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed to those identified on the Proof of Service list above.

OR

Transmission via electronic mail was consistent with the requirements of California Code of Regulations, title 20, sections 1209, 1209.5, and 1210. All electronic copies were sent to all those identified on the Proof of Service list above.

I declare under penalty of perjury that the foregoing is true and correct.

Name