ORDER NO. 03-1217-05

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION OF THE INLAND EMPIRE ENERGY CENTER BY INLAND EMPIRE ENERGY CENTER, LLC	**DOCKET NO. 01-AFC-17**

COMMISSION ADOPTION ORDER

This Commission Order adopts the Commission Decision on the Inland Empire Energy Center. It incorporates the Presiding Member's Proposed Decision (PMPD) in the above-captioned matter and the Committee Errata issued December 5, 2003. The Commission Decision is based upon the evidentiary record of these proceedings (Docket No. 01-AFC-17) and considers the comments received at the December 17, 2003, business meeting. The text of the attached Commission Decision contains a summary of the proceedings, the evidence presented, and the rationale for the findings reached and Conditions imposed.

This ORDER adopts by reference the text, Conditions of Certification, Compliance Verifications, and Appendices contained in the Commission Decision. It also adopts specific requirements contained in the Commission Decision which ensure that the proposed facility will be designed, sited, and operated in a manner to protect environmental quality, to assure public health and safety, and to operate in a safe and reliable manner.

FINDINGS

The Commission hereby adopts the following findings in addition to those contained in the accompanying text:

1. The Inland Empire Energy Center, sponsored by Inland Empire Energy Center, LLC, will provide local economic benefits and electricity reliability to the Riverside area.

2. The Conditions of Certification contained in the accompanying text, if implemented by the project owner, ensure that the project will be designed, sited, and operated in conformity with applicable local, regional, state, and federal laws, ordinances, regulations, and standards, including applicable public health and safety standards, and air and water quality standards.

3. Implementation of the Conditions of Certification contained in the accompanying text will ensure protection of environmental quality and assure reasonably safe and reliable operation of the facility. The Conditions of Certification also assure that the project will neither result in, nor contribute substantially to, any significant direct, indirect, or cumulative adverse environmental impacts.

4. Existing governmental land use restrictions are sufficient to adequately control population density in the area surrounding the facility and may be reasonably expected to ensure public health and safety.

5. The evidence of record establishes that no feasible alternatives to the project, as described during these proceedings, exist which would reduce or eliminate any significant environmental impacts of the mitigated project.

6. The evidence of record establishes that an environmental justice screening analysis was conducted and that the project, as mitigated, will not have a disproportionate impact on low-income or minority populations.

7. The evidence of record does not establish the existence of any environmentally superior alternative site.

8. The Decision contains a discussion of the public benefits of the project as required by Public Resources Code section 25523(h).

9. The Decision contains measures to ensure that the planned, temporary, or unexpected closure of the project will occur in conformance with applicable laws, ordinances, regulations, and standards.

10. The proceedings leading to this Decision have been conducted in conformity with the applicable provisions of Commission regulations governing the consideration of an Application for Certification and thereby meet the requirements of Public Resources Code sections 21000 et seq. and 25500 et seq.

ORDER

Therefore, the Commission ORDERS the following:

1. The Application for Certification of the Inland Empire Energy Center as described in this Decision is hereby approved and a certificate to construct and operate the project is hereby granted.

2. The approval of the Application for Certification is subject to the timely performance of the Conditions of Certification and Compliance Verifications enumerated in the accompanying text and Appendices. The Conditions and Compliance Verifications are integrated with this Decision and are not severable therefrom. While the project owner may delegate the performance of a Condition or Verification, the duty to ensure adequate performance of a Condition or Verification may not be delegated.

3. This Decision is adopted, issued, effective, and final on December 17, 2003.

4. Reconsideration of this Decision is governed by Public Resources Code, section 25530.

5. Judicial review of this Decision is governed by Public Resources Code, section 25531.

6. The Commission hereby adopts the Conditions of Certification, Compliance Verifications, and associated dispute resolution procedures as part of this Decision in order to implement the compliance monitoring program required by Public Resources Code section 25532. All conditions in this Decision take effect immediately upon adoption and apply to all construction and site preparation activities including, but not limited to, ground disturbance, site preparation, and permanent structure construction.

7. The Executive Director of the Commission shall transmit a copy of this Decision and appropriate accompanying documents as provided by Public Resources Code section 25537 and California Code of Regulations, title 20, section 1768.

Dated December 17, 2003, at Sacramento, California.

WILLIAM J. KEESE
Chairman

ROBERT PERNELL
Commissioner

ARTHUR H. ROSENFELD
Commissioner

JAMES D. BOYD
Commissioner

JOHN L. GEESMAN
Commissioner

TABLE OF CONTENTS

PAGE

INTRODUCTION 1
A. SUMMARY OF THE DECISION 1
B. SITE CERTIFICATION PROCESS 6
C. PROCEDURAL HISTORY 8

I. PROJECT PURPOSE AND DESCRIPTION 11
FINDINGS AND CONCLUSIONS 16

II. PROJECT ALTERNATIVES 18
SUMMARY AND DISCUSSION OF THE EVIDENCE 18
FINDINGS AND CONCLUSIONS 23

III. COMPLIANCE AND CLOSURE 25
SUMMARY OF THE EVIDENCE 25
FINDINGS AND CONCLUSIONS 28
GENERAL CONDITIONS OF CERTIFICATION 29

IV. ENGINEERING ASSESSMENT 52
A. FACILITY DESIGN 52
SUMMARY AND DISCUSSION OF THE EVIDENCE 52
FINDINGS AND CONCLUSIONS 55
CONDITIONS OF CERTIFICATION 56
B. POWER PLANT EFFICIENCY 73
SUMMARY AND DISCUSSION OF THE EVIDENCE 73
FINDINGS AND CONCLUSIONS 76
C. POWER PLANT RELIABILITY 77
SUMMARY AND DISCUSSION OF THE EVIDENCE 77
FINDINGS AND CONCLUSIONS 80
D. TRANSMISSION SYSTEM ENGINEERING 82
SUMMARY AND DISCUSSION OF THE EVIDENCE 82
FINDINGS AND CONCLUSIONS 85
CONDITIONS OF CERTIFICATION 86
E. TRANSMISSION LINE SAFETY AND NUISANCE 92
SUMMARY AND DISCUSSION OF THE EVIDENCE 92
FINDINGS AND CONCLUSIONS 95
CONDITIONS OF CERTIFICATION 96

TABLE OF CONTENTS, (Cont.)

PAGE

V. PUBLIC HEALTH AND SAFETY 97
A. AIR QUALITY 97
SUMMARY OF THE EVIDENCE 99
FINDINGS AND CONCLUSIONS 121
CONDITIONS OF CERTIFICATION 122
B. PUBLIC HEALTH 164
SUMMARY AND DISCUSSION OF THE EVIDENCE 164
FINDINGS AND CONCLUSIONS 171
CONDITIONS OF CERTIFICATION 172
C. WORKER SAFETY/FIRE PROTECTION 173
SUMMARY AND DISCUSSION OF THE EVIDENCE 173
FINDINGS AND CONCLUSIONS 176
CONDITIONS OF CERTIFICATION 177
D HAZARDOUS MATERIALS MANAGEMENT 179
SUMMARY AND DISCUSSION OF THE EVIDENCE 179
FINDINGS AND CONCLUSIONS 185
CONDITIONS OF CERTIFICATION 186
E. WASTE MANAGEMENT 199
SUMMARY AND DISCUSSION OF THE EVIDENCE 199
FINDINGS AND CONCLUSIONS 206
CONDITIONS OF CERTIFICATION 206

VI. ENVIRONMENTAL ASSESSMENT 209
BIOLOGICAL RESOURCES 209
SUMMARY AND DISCUSSION OF THE EVIDENCE 209
FINDINGS AND CONCLUSIONS 215
CONDITIONS OF CERTIFICATION 217
B. SOIL AND WATER RESOURCES 227
SUMMARY AND DISCUSSION OF THE EVIDENCE 227
FINDINGS AND CONCLUSIONS 235
CONDITIONS OF CERTIFICATION 236
C. CULTURAL RESOURCES 241
SUMMARY AND DISCUSSION OF THE EVIDENCE 241
FINDINGS AND CONCLUSIONS 244
CONDITIONS OF CERTIFICATION 245
D. GEOLOGY AND PALEONTOLOGY 252
SUMMARY AND DISCUSSION OF THE EVIDENCE 252
FINDINGS AND CONCLUSIONS 254
CONDITIONS OF CERTIFICATION 255

TABLE OF CONTENTS, (Cont.)

PAGE

VII. LOCAL IMPACT ASSESSMENT 262
A. LAND USE 262
SUMMARY AND DISCUSSION OF THE EVIDENCE 262
FINDINGS AND CONCLUSIONS 268
CONDITIONS OF CERTIFICATION 269
B. TRAFFIC AND TRANSPORTATION 270
SUMMARY AND DISCUSSION OF THE EVIDENCE 270
FINDINGS AND CONCLUSIONS 278
CONDITIONS OF CERTIFICATION 279
C. VISUAL RESOURCES 283
SUMMARY AND DISCUSSION OF THE EVIDENCE 283
FINDINGS AND CONCLUSIONS 290
CONDITIONS OF CERTIFICATION 291
D. NOISE AND VIBRATION 300
SUMMARY OF THE EVIDENCE 300
FINDINGS AND CONCLUSIONS 307
CONDITIONS OF CERTIFICATION 308
E. SOCIOECONOMICS 319
SUMMARY AND DISCUSSION OF THE EVIDENCE 319
FINDINGS AND CONCLUSIONS 324
CONDITION OF CERTIFICATION 325

APPENDIX A: LAWS, ORDINANCES, REGULATIONS, AND STANDARDS
APPENDIX B: EXHIBIT LIST
APPENDIX C: PROOF OF SERVICE LIST

INTRODUCTION

A. SUMMARY OF THE DECISION

On December 19, 2001, during a regularly convened Energy Commission Business Meeting, Chairman William Keese, appointed Commissioner Robert Pernell (Presiding) and Commissioner Jim Boyd (Associate) to a Committee established to review the Application by Calpine for its Inland Empire Energy Center Power Plant Project. This Decision contains our rationale for determining that the Inland Empire Energy Center Power Plant Project complies with all applicable laws, ordinances, regulations, and standards, and may therefore be licensed. It is based exclusively upon the record established during this certification proceeding and summarized in this document. We have independently evaluated the evidence, provided references to the record[1] supporting our findings and conclusions, and specified the measures required to ensure that the Inland Empire Energy Center is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

On August 17, 2001, Inland Empire Energy Center, LLC filed an Application for Certification with the California Energy Commission seeking approval to construct and operate the Inland Empire Energy Center. The proposed project is a 670-megawatt natural gas-fired, combined-cycle electric generating facility. The project will be located on approximately 46-acres near Romoland, within Riverside County. The project site is bordered by a 300-foot wide transmission line easement owned by Southern California Edison that runs along McLaughlin Road to the south, San Jacinto Road to the east, Antelope Road to the west, and the Burlington Northern Santa Fe railway to the north.

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[1] The Reporter's Transcript of the evidentiary hearing conducted on July 30, 2003, is cited as "RT, page (p.) __." The exhibits included in the evidentiary record are cited as "Ex. number." A list of all exhibits is contained in Appendix C of this Decision.

The proposed project consists of two GE PG-7251(FB) combustion turbine-generators with heat recovery steam generators, one steam turbine generator, associated pollution-control equipment, a switchyard, and other ancillary facilities. Applicant proposes to connect the on-site switchyard to the existing Southern California Edison Valley substation located approximately one-mile east of the project site via a new 500 kV transmission line. The project will also include the construction of a new 18-inch, 4.7-mile pipeline for the disposal of non-reclaimable wastewater. Sanitary wastewater will be discharged to an existing sewer line in McLaughlin Road. The project will use up to 5,000 acre feet per year of recycled water as it is available; initially, raw water will supplement the use of recycled water.

Natural gas will be supplied through a 0.9-mile, 20-inch diameter pipeline that will be constructed to deliver fuel from an existing Sempra Energy gas transmission pipeline that currently runs along Menifee Road, located approximately one mile south-east of the project site.

Several local, state, and federal agencies cooperated with the Energy Commission in completing this review process. The Applicant and Energy Commission Staff (hereinafter "Staff") worked with the community of Romoland, Riverside County, the Eastern Municipal Water District, the California Independent System Operator (Cal-ISO), the California Public Utilities Commission, and the Electricity Oversight Board. Formal intervenors included the California Unions for Reliable Energy (CURE) and the Romoland School District.

The South Coast Air Quality Management District (SCAQMD or "Air District") was responsible for coordinating input from the U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB), in consultation with Staff,

in drafting its Final Determination of Compliance (FDOC) on the project's conformity with state and federal air quality standards. The limitations on project emissions and the conditions imposed by the SCAQMD as well as the mitigation measures recommended by Staff are incorporated into this Decision.

Applicant testified that it will be purchasing RECLAIM Trading Credits (RTCs) to offset its nitrogen oxide (NOx) emissions. Staff concluded in its FSA that it could not recommend certification of the project because, in its opinion, Applicant failed to identify 90 percent of the minimum NOx offsets required for the first year of operation and therefore did not meet the requirements of Public Resources Code 25523(d)(2). Staff and Applicant continue to disagree on the interpretation of the statute's identification requirement.

In a Supplemental Briefing Order, the Committee requested that Applicant provide a letter to the Committee from the Air District, in which the Air District certifies that Applicant has identified its complete air emissions offset package (including RTCs). The Air District sent two letters to the Committee, dated October 22, 2003, and October 29, 2003, respectively. In each letter, the District confirmed that the project's offset package is complete in accordance with the *Air District's* rules and regulations, but did not address whether complete NOx offsets had been identified consistent with PRC 25523(d)(2).

Applicant submitted an opinion letter from a brokerage firm listing ten currently available sellers of NOx RTCs. Applicant stated that it has no objection that these specific RTCs be included in the Condition of Certification listing its offset package, and has also offered to purchase required RTCs prior to construction, rather than prior to operation as required by District Rules. We have modified **AQ-SC9** to reflect the above and, therefore find the project is in compliance with all Air Quality LORS.

Section 25523(h) of the Public Resources Code requires a discussion of the project's benefits. We address this issue in the Socioeconomics section of the Decision in which we find that the Inland Energy Center will provide local economic benefits and electricity reliability to the Riverside area and will also compete favorably with older, more polluting electricity generators in the region.

Public Comment.

During the evidentiary hearings on July 30, 2003, several members of the public spoke on behalf of the project or in opposition to the project

1. Project Proponents

Ken Graff, Legislative Assistant to Riverside County Supervisor Jim Venable, reaffirmed the County Board of Supervisor's support for the project. Mr. Graff introduced Bradley Hudson, the Assistant CEO for Riverside County. He spoke on behalf of Riverside County and Riverside County Redevelopment Agency. He conveyed the Board's support for the project based on jobs, investments, and tax resources available for the local community, including local schools. He further stated that the project is located in a manufacturing area, is consistent with the County's general plan, is much cleaner and more efficient than older plants, and is consistent with the recently adopted multi-species habitat conservation plan.

Mr. Bob Gibbons, spokesperson for the Harvest Valley Community Council and a member of the Romoland School Board, spoke in favor of the project because of the jobs it will bring into the community.

Mr. Daryl Busch, speaking on behalf of the City of Perris City Council, expressed the Council's support for the project based on the need for electrical power for growth and development.

2. Project Opponents

John and Melinda Puentes, Romoland residents, expressed their opposition to the project and questioned the Committee and parties about jobs, air quality, public health, visual impact, the proposed school site, and environmental justice. They expressed concerns about how the project site was chosen over other potential sites. Applicant explained that it was the convergence of all of linear facilities that led it to choose the proposed site. Subsequently, after the last evidentiary hearing, the Puentes presented a petition to the Committee, signed by 121 local residents (primarily from Romoland) opposing the project.

Mr. Glen Daniels, President of the Romoland Community Council, expressed his concern that the Council had sent a letter to the Commission in support of the project without the authority of the Council. He stated that as President, he did not have the authority to support or oppose the project without permission of the Council. However, on a personal level, he does not support the project. He also expressed his concern that the residents were not adequately notified about the project.

3. Other Public Comments

Mr. George Rackstrau, Romoland resident, asked the Applicant about the “leach line”. Applicant’s representative explained that the line is a non-reclaimable water line which will be collecting water high in total dissolved solids and taking it to the Orange County plant. The line in question is not a leach line as the line will not be leaching anything into the soil.

Ms. Nancy Dean, Romoland resident, asked a question regarding the impact of power lines. Applicant responded that for the benefit of the project, no additional 500-kV power lines will be built except for the one identified in the project description.

Mr. Ralph Lunstrum, resident of Homeland, discussed his positive experiences with the Air District's response to his calls.

B. SITE CERTIFICATION PROCESS

The Inland Empire Energy Center Power Plant 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 (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; 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 the 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 more formal level as Intervenors with an 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 the Application for Certification (AFC). Staff reviews the data submitted as part of the AFC and recommends to the Commission whether the AFC contains adequate information to begin the

review. Once the Commission determines an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the 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 statutes 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 such technical information as necessary. During this time, Staff sponsors numerous 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 a project in a document called the Preliminary Staff Assessment (PSA), which is made available for public comment. Staff's responses to public comment on the PSA and its complete analyses 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 these hearings, all entities that have formally intervened as parties may present sworn testimony, which is subject to cross-examination by other parties and questioning by the Committee. Members of the public may present comments at these hearings. Evidence adduced during these hearings provides the basis for the Committee's analysis and recommendation 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, this 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 Applicant, 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 inform members of the public concerning the certification proceedings, and to assist those interested in participating.

C. PROCEDURAL HISTORY

Public Resources Code, sections 25500 et seq. and Energy Commission regulations (Cal. Code of 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 August 17, 2001, Inland Empire Energy Center, LLC filed an Application for Certification with the California Energy Commission seeking approval to construct and operate the Inland Empire Energy Center. The proposed project is a 670-megawatt natural gas-fired, combined-cycle electric generating facility. On December 19, 2001, the Commission accepted the AFC as data adequate in order to commence the 12-month review process and assigned a Committee of two Commissioners to conduct proceedings.

The parties included Staff, Applicant, and Intervenors California Unions for Reliable Energy (CURE) and the Romoland School District.

On January 14, 2002, the Committee issued a notice of "Informational Hearing and Site Visit." 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 Inland Empire Energy Center Power Plant Project. The notice was also published in a local general circulation newspaper in Spanish and in English.

The Committee conducted the Informational Hearing and Site Visit in the City of Perris on January 30, 2002. At that event, the Committee, the parties and other participants discussed the proposal for developing the Inland Empire Energy Center, described the Commission's review process, and explained opportunities for public participation. The participants also viewed the site where the Inland Empire Energy Center will be situated and toured the residential and industrial areas around the perimeter of the Specific Plan Area.

As part of the review process, Staff conducted several public workshops on February 26, 2002, August 14 and 26, 2002, and July 8, 2003 to discuss issues of concern with Applicant, governmental agencies, and interested members of the public. Staff issued its Final Staff Assessment (FSA) on May 23, 2003, and conducted a public workshop on July 8, 2003, to discuss the FSA.

On February 14, 2003, the Committee issued its Scheduling Order, which lists the events that must occur in order to conduct the review process in 12 months. Several deadlines were contingent upon reviews to be conducted by federal, state, and local agencies.

On June 30, 2003, the Committee noticed the Evidentiary Hearing, which was held on July 30, 2003. The purpose of the formal evidentiary hearing is to establish the factual record necessary to reach a decision in this case. This is

done through the taking of written and/or oral testimony, as well as exhibits from the parties.

On September 22, 2003, following the evidentiary hearings, the Public Advisor met with local residents John and Melinda Puentes in Romoland to discuss their concerns. On September 30, 2003, they sent a letter to the Committee expressing their continuing concerns.

After reviewing the evidentiary record, including testimony and exhibits, the Committee published the Presiding Member's Proposed Decision (PMPD) on November 14, 2003, and scheduled a Committee Conference on December 1, 2003, to discuss comments on the PMPD. The 30-day comment period on the PMPD ends December 15, 2003.

I. PROJECT PURPOSE AND DESCRIPTION

The Inland Empire Energy Center, LLC, a wholly-owned subsidiary of Calpine Corporation ("Applicant") filed an application for the Inland Empire Energy Center, LLC (“IEEC” or "project"), a nominally rated 670-megawatt (MW) natural gas-fired, combined-cycle power plant. (Ex. 1, §§ 1.1, 3.1.) The IEEC will be located on approximately 45.8 acres near the town of Romoland in unincorporated Riverside County. (Ex. 1, p. 3-1.) The Applicant plans to begin operation of the IEEC by 2006, subject to market conditions. (RT 7/30/03, p. 28; Ex. 1, p. 3-48.)

Project Site and Facilities

The project site is located near the towns of Romoland and Sun City, approximately six miles west of the City of Hemet, four miles east of the City of Perris, and 30-miles southeast of the City of Riverside. (Ex. 67, p. 3-1.) The IEEC site is located at Parcel Number 331-180-08, Section 14, Township 5S, Range 3W. The site is currently under the Applicant’s control. (Ex. 1, p. 3-1; Ex. 2, p. 1-2.) The power plant and switchyard will occupy approximately 35 acres within the 45.8-acre project site. Currently, the site is cultivated agricultural land used for growing wheat. (*See* Project Description Figure 1, replicated from Staff’s testimony, at the end of this section.)

Approximately 24 fenced acres will accommodate the new IEEC generation facility, a switchyard, a water treatment facility, storage tank areas, a parking area, control/administration building and stormwater detention basin. (Ex. 1, p. 3-4.) The remaining 11 acres of the 35 permanently disturbed acres will be used for landscaping and access roads. (*Ibid.*) Construction laydown and parking areas will be within the 45.8-acre site area. (Ex. 1, p. 3-52.)

Power Plant

The IEEC is proposed to consist of two GE PG7251(FB) combustion turbine-generators (CTGs) equipped with dry, low oxides of nitrogen (NO_x) combustors and steam injection power augmentation, two heat recovery steam generators (HRSG), a single condensing steam turbine generator (STG), a deaerating surface condenser, and a 14-cell mechanical draft cooling tower. (Ex. 1, p. 3-4; Ex. 67, p. 3-1.) Additional equipment will include a nominal 100,000 pound per hour auxiliary boiler, a 1,000-kW natural gas-fired emergency generator, and a 370-horsepower diesel fire pump. (*Ibid*.)

Each CTG will be rated at approximately 174 MW. Hot exhaust gases from the CTGs will be directed to the HRSGs to generate steam. (Ex. 1, p. 3-10.) The CTGs will have power augmentation capability by use of steam injection upstream of the power turbine section. To provide safe and reliable operation, CTG equipment will include inlet air foggers/filters, dry-low NO_x combustion system, metal acoustical enclosure, lube oil cooler, compressor wash system and fire detection and protection system. (Ex. 1, p. 3-13.)

Each HRSG unit will have a single 195-foot exhaust stack equipped with duct burners to provide additional steam production when increased electric power generation is necessary. (Ex. 67, p. 3-1.) The steam produced by the HRSGs will be combined to drive the single STG, which is rated at approximately 204 MW. (Ex. 2, p. 1-3.) At base load, under average ambient conditions, the plant net output will be approximately 538 MW. The plant will be equipped with duct firing that will increase the peak output to approximately 670 MW. (Ex. 2, p. 1-3.) The peak power plant net output is anticipated to be 700 to 704 MW, with duct firing, depending on ambient conditions. (Ex. 1, p. 3-10; Ex. 67, p. 3-1.) Based on the design of the new units and site characteristics, electricity will be generated at a base load efficiency of approximately 56.5 percent lower heating

value (LHV) at ambient conditions. When duct firing is added, the overall plant efficiency decreases to approximately 53.2 percent LHV. (Ex. 4, p. 46; Ex. 67, pp. 6.3-2 to 6.3-3.) At base load, the plant will be operating at a heat rate of approximately 6,700 Btu/kwh on a higher heating value basis. The incremental heat rate for peaking capacity will range from 8,100 to 9,000 Btu/kwh (HHV), depending on ambient and operating conditions. (Ex. 1, p, 3-10.)

To control NOx concentrations, the CTGs will be equipped with dry, low NOx (DLN) combustors. The power plant will be equipped with best available control technology (BACT) in accordance with the South Coast Air Quality Management District rules, including an oxidation catalyst to limit carbon monoxide (CO) emissions and selective catalytic reduction (SCR) for additional NOx control. The SCR system consists of a reduction catalyst and an aqueous ammonia injection system. (Ex. 67, p. 3-2.)

NOx emissions will be controlled to 2.0 parts per million, CO emissions will be controlled to 3 parts per million without duct firing and 4 parts per million with duct firing, and VOCs (also regulated as “ROG”, reactive organic gases) will be controlled to 2 parts per million to comply with Air District requirements. (Ex. 52, p. 14.) Applicant will offset the increase in regulated air pollutant emissions from the IEEC by purchasing emission reduction credits (ERCs) for CO and VOC/ROG; purchasing offsets through the Priority Reserve Program for PM_{10} and SOx; and obtaining Reclaim Trading Credits (RTCs) for NO_x. (Ex. 68, p. 3.)

Transmission Line and Natural Gas Facilities

The IEEC will interconnect with the electrical transmission grid from an on-site switchyard through a new transmission line to the existing Southern California Edison (SCE) Valley Substation. The proposed transmission line will be a 0.9-mile, 500-kilovolt (kV) overhead line utilizing new single and double-circuit steel lattice towers to connect to the existing substation. (Ex. 67, p. 3-3.)

Installation of the 500 kV transmission line will require relocation of the existing 115 kV line. SCE is currently considering two alternatives: (1) an underground route adjacent to the north side of McLaughlin road with a construction width of 75 feet; or (2) an above-ground route to the south of McLaughlin road following the gas pipeline right of way. (Ex. 11, p. 3.)

Natural gas will be supplied through a 0.9-mile, 20-inch diameter pipeline that will be constructed to deliver fuel from an existing Sempra Energy gas transmission pipeline that currently runs along Menifee Road, located approximately one mile south-east of the project site. Construction and operation of a compressor station will be required to maintain gas pressure in the Sempra pipeline south of the project site during periods of power plant operation. The compressor station and associated equipment will occupy approximately 2.6 acres of a 6.7-acre parcel located southeast of the proposed project site, and will consist of a 4,000 square-foot compressor building, a 1,500-square foot electrical building, a variety of mechanical equipment, several small accessory structures, and a parking area. (Ex. 67, pp. 3-2, 6.4-4.) The pressure of natural gas delivered to the site is expected to be at least 500 pounds per square inch gauge (psig). (Ex. 1, p. 3-19.)

Water Supply and Waste Water Treatment

The combined cycle units will use a maximum of 7.4 million gallons of water per day (gpd) or 4,958 acre feet per year. (Ex. 67, p. 3-2.) The cooling and process water used at IEEC is projected to consist primarily of recycled water supplied by Eastern Municipal Water District (EMWD), supplemented with raw water supplied by EMWD during the initial years of operation. These water sources will be combined at EMWD's Perris Valley Water Treatment Plant (PVWTP), pumped south into an existing 48-inch recycled water pipeline that runs along McLaughlin Road, and will be delivered to the IEEC via a new 0.1-mile long, 12 to 24-inch

recycled water pipeline. (Ex. 2, p. 1-6.) Applicant anticipates fresh water will constitute up to 18 percent of the water supply during the first year of operation, and the proportion of fresh water will decline in the following years. Applicant projects that cooling and process water used at IEEC will consist of 100 percent recycled water supplied by EMWD by 2011. (Ex. 2, p. 6.2-5; Ex. 67, p. 3-2.) Potable water for drinking and other facility uses will be supplied through an existing EMWD pipeline located along Antelope Road, connecting to the project via a new 0.1-mile pipeline. (Ex. 67, p. 3-3.)

Disposal of process wastewater will require a new 4.7-mile non-reclaimable wastewater pipeline that will be constructed within existing utility rights-of-way along McLaughlin Road and Murrietta Road and connect with existing EMWD facilities located in the community of Sun City. Cooling tower blowdown will be discharged into this pipeline. Other wastewater streams, including the reject stream from reverse osmosis, HRSG blowdown, and recovery from plant service water drains, will be recycled for use as cooling tower makeup. (Ex. 67, p. 5.9-15.) Sanitary wastewater will be discharged via a new 0.1-mile sewer line to an existing sanitary sewer line under McLaughlin Road. (Ex. 1, p. 3-28.)

Project Schedule

Applicant will begin project construction following certification and commence commercial operation as early as 2006, subject to market conditions. (RT 7/30/03, p. 28.) During the 24-month construction period, the project will provide a maximum of 490 construction jobs, with an average workforce of 250 employees. During operation, the project will employ approximately 23 full-time staff. (Ex. 1, pp. 3-50, 3-53.) The facility has a planned life of 30 years or longer. (Ex. 1, p. 3-57.) Applicant estimates the capital costs associated with the project will be $300-400 million. (Ex. 67, p. 3-1.)

FINDINGS AND CONCLUSIONS

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

1. The IEEC project involves the construction and operation of a nominal 538 megawatt (MW) baseload (670 MW peaking) natural gas-fired combined cycle electrical generating facility in unincorporated Riverside County, California.

2. The IEEC will be located near the town of Romoland on 35 acres within a 45.8-acre project site.

3. The IEEC consists of a two-on-one power island with two CTGs, one STG, and two HRSGs, other electrical generation and mechanical equipment, transformers, emission control equipment, and administrative facilities.

4. The IEEC project will also include a 0.9 mile long natural gas pipeline, a 0.1-mile long sewer pipeline, a 0.1-mile long reclaimed water pipeline, a potable water pipeline, and a 4.7-mile long non-reclaimable wastewater pipeline.

5. The IEEC will interconnect with the electrical transmission grid from an on-site switchyard via a new 0.9 mile long 500 kV overhead line.

We conclude that the Applicant has described the Inland Empire Energy Center in sufficient detail to allow review in compliance with the provisions of both the Warren-Alquist Act and the California Environmental Quality Act (CEQA).

PROJECT DESCRIPTION - FIGURE 1

Inland Empire Energy Project - Regional Setting

CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION, NOVEMBER 2001

SOURCE: California Energy Commission Statewide Transmission & Power Plant Maps 2001

II. PROJECT ALTERNATIVES

The California Environmental Quality Act (CEQA), its interpretative Guidelines, and the Energy Commission's regulations require an evaluation of the comparative merits of a range of feasible site and facility alternatives including the "no project" alternative, which would attain the basic objectives of the proposed project but would avoid or substantially lessen potentially significant environmental impacts.[2] (Cal. Code of Regs., tit. 14, §§ 15126.6(d) and (e); *see also*, tit. 20, § 1765.) The range of alternatives is governed by the "rule of reason" and need not include those alternatives whose effects cannot be reasonably ascertained and whose implementation is remote and speculative. (*Id.* at tit. 14, § 15126.6(d)(5).)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The IEEC will be located on a 45.8 acre site within the unincorporated area of Riverside County. The project site is currently a fallow agricultural field, designated "Industrial" and zoned "Heavy Manufacturing". (Ex. 67, p. 7-2.) The evidentiary record illustrates the benefits of the Inland Empire Energy Center site in the discussion of alternative sites and technologies as well as the "no project alternative." (Ex. 1, § 3.10; Ex. 67, p. 7-1 et seq.)

Methodology

The evidence of record demonstrates that the methodology summarized below was used in analyzing alternatives to the proposed project:

[2] Based on the totality of the record and as reflected in our findings for each of the technical topic areas, *infra*, the IEEC, if mitigated, will not result in significant adverse effects on the environment. We include the analysis of project alternatives to ensure that our certification review conforms with requirements of the CEQA Guidelines and the Energy Commission's regulations. (Cal. Code of Regs., tit. 14, § 15126.6 and tit. 20, § 1765.)

- Identify the basic objectives of the project, provide an overview of the project, and describe its potentially significant adverse impacts.
- Identify and evaluate technology alternatives to the project, including conservation and renewable sources.
- Identify and evaluate alternative locations or sites.
- Evaluate the impacts of not constructing the project, known as the No Project Alternative under CEQA. (Ex. 67, p. 7-3.)

Staff found that the project posed potentially significant air quality impacts because the Applicant has not identified the Reclaim Trading Credits (RTCs) needed to mitigate the plant's NOx emissions. As is fully discussed in the Air Quality section of this Decision, we find that Applicant has identified its RTCs. Once all air emissions offsets are obtained, all potential impacts will be reduced to less than significant levels. In our view, the evidentiary record establishes that there are no unmitigated impacts to the environment or public health and safety. (Ex. 67, p. 7-3., *see*, the Findings and Conclusions for each technical topic in this Decision.)

Project Objectives

The project's major objectives are as follows:

- To construct and operate a facility for the production of economical, reliable, and environmentally sound electrical energy and capacity to meet California's energy demands. (Ex. 1, p. 2-1.)
- To generate approximately 670 MW of electricity.
- To be located near the existing SCE Valley Substation.
- To be located near key infrastructure for natural gas, water supply and transmission lines.
- To be located on a site that is zoned for heavy industrial uses. (Ex. 67, p. 7-3.)

Alternative Site Location

Staff reviewed three sites identified by the Applicant and evaluated three additional sites that satisfied the criteria for meeting project objectives. Each of the alternative sites has advantages and disadvantages to the proposed project site. (Ex. 67, p. 7-1, et seq.) The alternative sites are:

- Alternative Site 1: Properties located east of the SCE Valley Substation.
- Alternative Site 2: Properties located south of the SCE Valley Substation.
- Alternative Site 3: Additional properties zoned heavy manufacturing adjacent to the proposed site.
- Alternative Site 4: Other properties located within the immediate project vicinity with appropriate zoning designations.
- Alternative Site 5: Property adjacent to Briggs Road.
- Alternative Site 6: Property southwest of Banning.

Alternative Site 1 includes 1,500 acres of land to the east of SCE's Valley Substation. The site is located near the SCE Valley substation, has good transmission access, ample fuel gas supply, and is located near a sufficient source of cooling water. However, the site is not likely to be available because it lies in the Menifee Ranch Specific Plan, recently approved by the Riverside County Planning Commission for residential development. Also, the site is not zoned for heavy industrial use and is adjacent to areas designated for residential and commercial development. (Ex. 1, § 3.10; Ex. 67, p. 7-8.)

Alternative Site 2 includes two undeveloped properties south of SCE Valley Substation. Similar to Alternative Site 1, this site is located close to SCE Valley Substation, has good transmission access, ample fuel supply, and is located near a sufficient source of cooling water. The site is located slightly further away from residential areas and Romoland Elementary School. One of the properties,

a 30-acre parcel, may not be available if an option to lease or sell is completed. This would leave a 23-acre parcel which, on its own, would not be large enough to accommodate the facility. Furthermore, the site is immediately adjacent to land zoned for commercial development, which could result in an incompatible land use. (Ex.1, § 3.10; Ex. 67, p. 7-9.)

Alternative Site 3 is a group of four properties located adjacent to the proposed site and near the SCE Valley Substation. Alternative Site 3 has the same advantages as Alternative Sites 1 and 2 but, unlike those sites, Alternative Site 3 is located within the 100-year floodplain. Individually the properties are not large enough for the facility and only one 11-acre parcel is available for lease or sale. (Ex. 1, § 3.10; Ex. 67, pp. 7-10, 7-11.)

Alternative Site 4 is a 53-acre site zoned "Industrial Park". This site has the same advantages of Alternative Sites 1 through 3. The evidence indicates, however, uncertainty regarding its availability for lease or sale, whether the site's existing zoning would permit a power plant, or whether the area has been slated for development. The site would also require a new transmission line utility corridor to the SCE Valley Substation. (Ex. 67, p. 7-11.)

Alternative Site 5 is located about 8 miles south of the proposed site, east of Interstate Highway 215 and encompasses 640 acres of land. This site has appropriate land use/zoning designations, is located close to the proposed project's natural gas line, can connect to the SCE Valley Substation via existing transmission line right-of-ways, and is large enough to accommodate the facility. Staff indicated that the site may not be available for lease or sale and would require the construction and operation of additional pipelines to connect to EMWD's infrastructure. (Ex. 67, p. 7-12.)

Alternative Site 6 is approximately 640 acres located at the base of the San Jacinto Mountains, about 2.5 miles southwest of the City of Banning. The site is

located close to the proposed project's natural gas pipeline, can connect to the SCE Valley Substation, is large enough to accommodate the facility, has appropriate land use and zoning designations, and is set back in a remote area. However, the site is not within the EMWD's service areas and would require a reliable water supply. Also, the site may not be available for lease or sale and since it does not currently have vehicular access, it would require construction of new roads. (Ex. 67, pp. 7-12, 7-13.)

Technology Alternatives[3]

The evidence of record contains an analysis of alternative technologies based on commercial availability, feasibility, environmental, health and safety impacts, and relative cost. (Ex. 67, p. 7-16, et seq.) The evidence establishes that technologies such as biomass, hydroelectric, geothermal, solar, and wind power will either fail to meet project goals to provide reliable baseload power in order to ensure reliability for electricity in California or will cause significant environmental impacts. (*Ibid.*) Technologies relying on coal or other solid fossil fuels will cause higher air pollutant emission rates. (Ex. 67, p. 7-19.)

No Project Alternative

The CEQA Guidelines require an analysis of the "no project" alternative to compare the impacts of approving the project with the impacts of not approving the project. (Cal. Code of Regs., tit. 14, § 15126.6(e).) In this case, the "no project" alternative assumes that the IEEC would not be built. One consequence of the no project alternative is that the proposed site would remain in agricultural production, at least in the short term. If the project is not built, impacts associated with the construction and operation of the IEEC would not occur.

3 Staff also evaluated Applicant's proposed alternative natural gas pipeline route, water supplies, power generation technologies, fuel technologies, combustion technologies, NOx technologies, inlet air technologies and cooling technologies. Please see the discussion of these alternatives in the corresponding sections of the Final Staff Assessment (Ex. 67) and this Decision.

However, since the project area is anticipated to experience significant growth within the foreseeable future, the evidence shows it is feasible that the proposed site would be developed for another use if the proposed IEEC is not built. (Ex. 67, p. 7-25.) Furthermore, if the project is not built, there would be a loss generating capacity to serve California load. IEEC will supply 670 MW of electrical generation, enough electricity to supply approximately 670,000 homes. (*Ibid*.)

Based on the analysis described above, we conclude that the evidence establishes that the alternative sites do not offer any appreciable merit over the proposed site. Additionally, other sites would not reduce or eliminate the air quality impacts/issues associated with the proposed project because project relocation would not affect its operation or LORS requirements. Therefore, the IEEC proposed site is the preferable alternative. (Ex. 67, p. 7-22.)

FINDINGS AND CONCLUSIONS

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

1. The project site is located on an undeveloped parcel in unincorporated Riverside County. The site is currently an agricultural field, designated Industrial and zoned Heavy Manufacturing.

2. All potential adverse environmental effects related to the project will be mitigated to insignificant levels.

3. The evidentiary record contains an adequate review of alternative sites, fuels, technologies, and the “no project” alternative.

4. Other technology alternatives such as biomass, geothermal, solar, or wind resources are either not capable of meeting project objectives or will cause significant environmental impacts.

5. The “no project” alternative would not avoid or substantially lessen potentially significant environmental impacts.

6. If all Conditions of Certification contained in this Decision are implemented, construction and operation of the IEEC will not create any significant, direct, indirect, or cumulative adverse environmental impacts.

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

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, and 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). (Ex. 67, p. 8-1, et seq.) The Plan is the administrative mechanism used to ensure that the Inland Empire Energy Center 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 is the "General Conditions". These General Conditions:

- 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;
- Establish procedures for settling disputes and making post-certification changes;

- State the requirements for periodic compliance reports and other administrative procedures necessary to verify the compliance status of all Commission imposed conditions; and

- Establish 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 an insignificant level. Each condition also includes a verification provision describing the method of assuring that the condition has been satisfied.

During the evidentiary hearing, Staff and Applicant agreed to revised wording of **COM-8**, requiring a Construction and Operation Security Plan. (RT 7/30, p.p. 117-119.) The condition has been revised to require the security plan to address site access for vendors and requirements for vendors delivering acutely hazardous materials, hydrogen gas, and 93 percent sulfuric acid to conduct personnel background security checks.

Applicant and Staff continue to disagree on Staff's proposed Condition of Certification **COM-15**, which sets out the procedure for establishing and enforcing milestones, including milestone dates for pre-construction and construction phases of the project. (Applicant Reply Brief, pp.15-16; Staff Reply Brief, p. 4.) This condition requires Applicant to show how it will construct and bring the project on line in time to satisfy the Air District's Priority Reserve rule. As written, if Priority Reserve emission credits are used, milestones and methods of verification must be established and agreed upon by the project owner and the CPM no later than 60 days <u>after project approval.</u> This can be the date the Commission formally acts or the date of docketing, depending upon the

requirements in the Adoption Order. If this deadline is not met, the CPM will establish the milestones. (Ex. 68, pp. 128-129; emphasis added.)

The dispute between Staff and Applicant centers on when that plan should be submitted to the CPM. Applicant contends that milestones should be established and agreed upon by the project owner and CPM 60 days "after the Applicant has received the Permit to Construct from the SCAQMD, or California Energy Commission Certification, whichever is later." Applicant also argues that the last sentence of the paragraph (allowing the CPM to establish the milestones in the event the deadline is not met) should be stricken. (RT 7/30, pp. 74-75; Ex. 2, p. 3.8-9.)

The Final Determination of Compliance is clear that the Air District cannot issue its Authority to Construct (ATC) until the project has been licensed by the California Energy Commission and Applicant pays the required fees for the District's Priority Reserve offset credits for SOx and PM_{10}. (RT 7/30/03, p. 160; Ex. 48.) As a condition of using these Priority Reserve credits, the Air District's rules require that commercial operation begin within three years of the issuance of Certification by the Energy Commission or the ATC by the Air District, whichever is later. An extension of that deadline can be granted by the Air District's Executive Officer. (SCQAMD Rule 1309.1(a)(4)(D).) According to Air District staff, issuance of the ATC could be delayed as long as a year, perhaps even longer, after the Commission's approval, depending on when Applicant pays the Priority Reserve fees. (RT 7/30, pp. 170-171.)

Applicant suggests that it would be premature to presume that it will use the Priority Reserve "before the Applicant has determined whether or not to even use the priority reserve." (RT 7/30, p. 76; Applicant Opening Brief, p, 33.) Applicant further contends that by requiring the milestones to be established 60 days after project approval by this Commission, Applicant might be required to establish milestones prior to this Decision becoming final. (Applicant's Opening Brief, p.

33.) Staff maintains that the Air District's Final Determination of Compliance assumes and in fact has conditioned the approval of project construction on the use of the Priority Reserve. (Staff's Reply Brief, p. 3.) As noted in the **Air Quality** section of this Decision, we agree with Staff that the analysis in the FDOC assumes Applicant will be offsetting PM_{10} and SOx emissions through the Priority Reserve. We have therefore required Applicant to purchase offsets for those emissions through the Priority Reserve. (See **AQ-SC9**.) This renders Applicant's reservations moot.

Furthermore, although we believe that 60 days following the specified adoption date of this Decision is a reasonable amount of time for Applicant and Staff to develop an agreement on milestones for this project in order to ensure compliance with the Air District's Priority Reserve rule, we understand that in the event a party files for reconsideration of the Decision, that time period should be extended. A party has 30 days to file for reconsideration of the Decision. Therefore, we conclude that there reason to support the requirement that milestones be established 90 days following the approval of this project, or in the event a party files for reconsideration of this Decision, 60 days following the final action on reconsideration.

The contents of the Compliance Plan are intended to be read 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 Inland Empire Energy Center 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 read 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

Moving trailers and related equipment onto the site, usually accompanied by minor ground disturbance, grading for the trailers and limited vehicle parking, trenching for construction utilities, installing utilities, grading for an access corridor, and other related activities. Ground disturbance, grading, etc. for site mobilization are limited to the portion of the site necessary for placing the trailers and providing access and parking for the occupants. Site mobilization is for temporary facilities and is, therefore, not considered construction.

Ground Disturbance

Onsite 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. Ground disturbance does not include the following:

a. the installation of environmental monitoring equipment;
b. a soil or geological investigation;
c. a topographical survey;
d. any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; or
e. any work to provide access to the site for any of the purposes specified in a., b., c., or d.

Grading

Onsite activity conducted with earth-moving equipment that results in alteration of the topographical features of the site such as leveling, removal of hills or high spots, or moving of soil from one area to another.

Construction

[From section 25105 of the Warren-Alquist Act.] Onsite work to install permanent equipment or structures for any facility. Construction does **not** include the following:

a. the installation of environmental monitoring equipment;

b. a soil or geological investigation;

c. a topographical survey;

d. any other study or investigation to determine the environmental acceptability or feasibility of the use of the site for any particular facility; or

e. any work to provide access to the site for any of the purposes specified in a., b., c., or d.

Start Of Commercial Operation

For compliance monitoring purposes, "commercial operation" is that phase of project development which begins after the completion of start-up and commissioning, where the power plant has reached steady-state production of electricity with reliability 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

A Compliance Project Manager (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 staff and management.

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.

Pre-Construction and Pre-Operation Compliance Meeting

The CPM may schedule 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 shall 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 Docket file, for the life of the project (or other period as required):

- 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 changes and the resulting staff or Energy Commission action.

PROJECT OWNER RESPONSIBILITIES

It is the responsibility of the project owner to ensure that the general compliance conditions and the conditions of certification are satisfied. The general compliance conditions regarding post-certification changes specify measures that the project owner must take when requesting changes in the project design, compliance conditions, or ownership. Failure to comply with any of the conditions of certification or the general 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 General

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.**

COM-1, Unrestricted Access

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 files and 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.

COM-2, Compliance Record

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.

COM-3, Compliance Verification Submittals

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.

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 mitigation or other evidence of mitigation.

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:

Compliance Project Manager
Docket Number
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814

If the project owner desires Energy Commission staff action by a specific date, they shall so state in their submittal and include a detailed explanation of the effects on the project if this date is not met.

COM-4, Pre-Construction Matrix And Tasks Prior To Start Of Construction

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 , and shall be submitted prior to the first pre-construction meeting, if one is held. It will be in the same format as the compliance matrix referenced 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 construction.

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.

It is 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 Final 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 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.

COM-5, Compliance Matrix

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 compliance conditions 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;
7. the compliance status of each condition (e.g., "not started," "in progress" or "completed" (include the date); and
8. the project's preconstruction and construction milestones, including dates and status (if milestones are required).

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.

COM-6, Monthly Compliance Report

The first Monthly Compliance Report is due one month following the Energy Commission business meeting date on 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 five copies (or other amount specified by Compliance Project Manager) 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 should be submitted as attachments to the Monthly Compliance Report;
3. an initial, and thereafter updated, compliance matrix which shows the status of all conditions of certification;
4. a list of conditions that have been satisfied during the reporting period, and a description or reference to the actions which 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 with, 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;
10. any requests, with justification, to dispose of items that are required to be maintained in the project owner's compliance file; and
11. a listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolutions of any resolved complaints, and the status of any unresolved complaints.

COM-7, Annual Compliance Report

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 which shows the status of all conditions of certification (fully satisfied and/or closed conditions do not need to be included in the matrix after they have been reported as closed);
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 should be 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 made 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 General 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 complaints, and the status of any unresolved complaints.

COM-8, Construction and Operation Security Plan

Thirty days prior to commencing construction, a site-specific Security Plan for the construction phase shall be developed and maintained at the project site. At least 60 days prior to the initial receipt of acutely hazardous materials, hydrogen gas, and 93 percent sulfuric acid on-site, a site-specific Security Plan and Vulnerability Assessment for the operational phase shall be developed and maintained at the project site. The project owner shall notify the CPM in writing that the Plan is available for review and approval at the project site.

Construction Security Plan

The Construction Security Plan must address:

1. site fencing enclosing the construction area;
2. use of security guards;

3. check-in procedure or tag system for construction personnel and visitors;
4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency; and
5. evacuation procedures.

Operation Security Plan

The Operations Security Plan must address:

1. permanent site fencing and security gate;
2. use of security guards;
3. security alarm for critical structures;
4. protocol for contacting law enforcement and the CPM in the event of suspicious activity or emergency;
5. evacuation procedures;
6. perimeter breach detectors and on-site motion detectors;
7. video or still camera monitoring system;
8. fire alarm monitoring system;
9. site personnel background checks; and
10. site access for vendors and requirements for vendors delivering acutely hazardous materials, hydrogen gas, and 93 percent sulfuric acid to conduct personnel background security checks.

In addition, the project owner shall prepare a Vulnerability Assessment and implement site security measures addressing acutely hazardous materials, hydrogen gas, and 93 percent sulfuric acid storage and transportation consistent with US EPA and US Department of Justice guidelines.

The CPM may authorize modifications to these measures, or may require additional measures depending on circumstances unique to the facility, and in response to industry-related security concerns.

The language requirements of **COM-8** may be subject to replacement or termination pursuant to the Commission's future rulemaking or other action on security matters, where power plant owners have the opportunity to review and comment.

COM-9, Confidential Information

Any information that the project owner deems confidential shall be submitted to the Energy Commission's Docket 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.

COM-10, Department of Fish and Game Filing Fee

Pursuant to the provisions of Fish and Game Code Section 711.4, the project owner shall pay a filing fee in the amount of $850. The payment instrument shall be provided to the Energy Commission's Project Manager (PM), not the CPM, at the time of project certification and shall be made payable to the California Department of Fish and Game. The PM will submit the payment to the Office of Planning and Research at the time of filing of the notice of decision pursuant to Public Resources Code Section 21080.5.

COM-11, Reporting of Complaints, Notices, and Citations

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 inquiries 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 of all complaint forms, notices of violation, notices of fines, official warnings, and citations, within 10 days of receipt, to the CPM. 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 at the end of a project's life, 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 accountable 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.

GENERAL CONDITIONS FOR FACILITY CLOSURE

COM-12, Planned Closure

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 twelve months prior to commencement of closure activities (or other period of time agreed to by the CPM). 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, local/regional plans in existence at the time of facility closure, and applicable conditions of certification.

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.

In addition, 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.

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 Energy Commission approval of the facility closure plan is obtained.

COM-13, Unplanned Temporary Closure/On-Site Contingency Plan

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 that 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, 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 twelve 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).

COM-14, Unplanned Permanent Closure/On-Site Contingency Plan

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 unlikely event of abandonment.

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. 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.

CBO DELEGATION AND AGENCY COOPERATION

In performing construction monitoring of the project, Commission staff acts as, and has the authority of, the Chief Building Official (CBO). Commission staff may delegate CBO responsibility to either an independent third party contractor or the local building official. 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.

Commission staff may also seek the cooperation of state, regional and local agencies that have an interest in environmental control 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 1230 et seq., but 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 current law or regulations.

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 1230 et seq., 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 referred to 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 that the Energy Commission 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 of the results of the investigation, including corrective measures proposed or undertaken, to the CPM. 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 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 which 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 or a request for an investigation with the Energy Commission's General Counsel. Disputes may pertain to actions or decisions made by any party including the Energy Commission's delegate agents. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1230 et seq.

The Chairman, upon receipt of a written request stating the basis of the dispute, may grant a hearing on the matter, consistent with the requirements of noticing provisions. The Energy Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction (Cal. Code Regs., tit. 20, §§ 1232-1236).

POST CERTIFICATION CHANGES TO THE ENERGY COMMISSION DECISION: AMENDMENTS, INSIGNIFICANT PROJECT CHANGES, AND VERIFICATION CHANGES

The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, when proposing modifications to project design, operation, or performance requirements. The petition requesting the modification should be submitted to the Energy Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

AMENDMENTS

If a proposed modification results in 1) a change or deletion of a condition of certification, 2) a significant effect on the environment, or 3) causes the project

not to comply with applicable LORS, the petition shall be processed as a formal amendment to the final decision. The full Commission must approve formal amendments. The project owner shall file a petition in accordance with Title 20, California Code of Regulations, section 1769 (a).

Change of ownership or operational control also requires that the project owner files a petition, and obtains full Commission approval, pursuant to section 1769 (b).

Insignificant Project Changes

If staff determines that a proposed modification **will not** result in 1) a change or deletion to a condition of certification, 2) have a significant effect on the environment, and 3) complies with all applicable LORS, then commission approval is **not** needed pursuant to section 1769 (a) (2). The CPM shall file a statement that staff has made such a determination with the Commission Docket and mail a copy of the statement to every person on the project's post-certification mailing list.

Any person may file an objection to staff's determination within 14 days of service on the grounds that the modification does not meet the criteria in section 1769 (a) (2). If an objection is received, the petition must be processed as a formal amendment to the final decision and must be approved by the full Commission at a noticed business meeting or hearing.

VERIFICATION CHANGES

Pursuant to section 1769 (d), verification provisions may also be modified as necessary to enforce the conditions of certification without requesting an amendment to the final decision, provided that the verification change does not conflict with the condition of certification. The staff may initiate verification changes, or the project owner may request changes.

COM-15, CONSTRUCTION MILESTONES

Since the project owner is required to use Priority Reserve emission reduction credits for the project, following is the procedure for establishing and enforcing milestones which include milestone dates for pre-construction and construction phases of the project. Milestones and methods of verification must be established and agreed upon by the project owner and the CPM no later than 90 days after project approval, as specified in the adoption order, or in the event a party files for reconsideration of this Decision, 60 days following the final action on reconsideration. If this deadline is not met, the CPM will establish the milestones. Milestones may be expressed in formulistic terms, as necessary.

I. ESTABLISH PRE-CONSTRUCTION AND CONSTRUCTION MILESTONES TO ENABLE COMPLETION OF CONSTRUCTION IN COMPLIANCE WITH SCAQMD'S REQUIREMENTS, CONTAINED IN RULE 1309.1.

1. Obtain site control.
2. Obtain financing.
3. Mobilize site.
4. Begin rough grading for permanent structures (start of construction).
5. Begin pouring major foundation concrete.
6. Begin installation of major equipment.
7. Complete installation of major equipment.
8. Begin gas pipeline construction.
9. Complete gas pipeline interconnection.
10. Begin T-line construction.
11. Complete T-line interconnection.
12. Begin commercial operation .

The CPM will negotiate the above-cited pre-construction and construction milestones with the project owner based on an expected schedule of construction. The CPM may agree to modify the final milestones from those listed above at any time prior to or during construction if the project owner demonstrates good-cause for not meeting the originally-established milestones. Otherwise, failure to meet milestone dates without a finding of good cause is considered cause for possible forfeiture of certification or other penalties.

II. A FINDING THAT THERE IS GOOD CAUSE FOR FAILURE TO MEET MILESTONES WILL BE MADE IF ANY OF THE FOLLOWING CRITERIA ARE MET:

1. The change in any milestone does not change the established commercial operation date milestone.
2. The milestone will be missed due to circumstances beyond the project owner’s control.
3. The milestone will be missed, but the project owner demonstrates a good-faith effort to meet the project milestone.
4. The milestone will be missed due to unforeseen natural disasters or acts of God which prevent timely completion of the milestones.
5. The milestone will be missed due to requirements of the California ISO to maintain existing generation output.

If a milestone date cannot be met, the CPM will make a determination whether the project owner has demonstrated good cause for failure to meet the milestone. If the determination is that good cause exists, the CPM will negotiate revised milestones.

If the project owner fails to meet one or more of the established milestones, and the CPM determines that good cause does not exist, the CPM will make a recommendation to the Executive Director. Upon receiving such recommendation, the Executive Director will take one of the following actions:

1. Conclude that good cause exists and direct that revised milestones be established; or
2. Issue a reprimand, impose a fine, or take other appropriate remedial action and direct that revised milestones be established; or
3. The Executive Director may recommend, after consulting with the Siting Committee, that the Energy Commission issue a finding that the project owner has forfeited the project's certification.

The project owner has the right to appeal a finding of no good cause, or any recommended remedial action, to the full Energy Commission.

COM-6, KEY EVENTS LIST

PROJECT: **INLAND EMPIRE Power Project**

DOCKET #: **01-AFC-17**

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	
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 GENERAL CONDITIONS OF CERTIFICATION

CONDITION NUMBER	PAGE #	SUBJECT	DESCRIPTION
COM-1	4	Unrestricted Access	The project owner shall grant Energy Commission staff and delegate agencies or consultants unrestricted access to the power plant site.
COM-2	4	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	4	Compliance Verification Submittals	The project owner is responsible for the delivery and content of all verification submittals to the CPM, whether the condition was satisfied by work performed by the project owner or his agent.
COM-4	5	Pre-construction Matrix and Tasks Prior to Start of Construction	Construction shall not commence until all of the following activities/submittals have been completed: 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; and the CPM has issued a letter to the project owner authorizing construction.
COM-5	6	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	6	Monthly Compliance Report (including a Key Events List)	During construction, the project owner shall submit Monthly Compliance Reports (MCRs) which include specific information. The first MCR is due the month following the 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.

CONDITION NUMBER	PAGE #	SUBJECT	DESCRIPTION
COM-7	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	8	Security Plans	Thirty days prior to commencing construction, the project owner shall submit a Security Plan for the construction phase. Sixty days prior to initial receipt of hazardous material on site, the project owner shall submit an Security Plan & Vulnerability Assessment for the operational phase.
COM-9	9	Confidential Information	Any information the project owner deems confidential shall be submitted to the Dockets Unit with an application for confidentiality.
COM-10	9	Dept of Fish and Game Filing Fee	The project owner shall pay a filing fee of $850 at the time of project certification.
COM-11	9	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-12	10	Planned Facility Closure	The project owner shall submit a closure plan to the CPM at least twelve months prior to commencement of a planned closure.
COM-13	11	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-14	12	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-15	16	Construction milestones	The project owner shall establish specific performance milestones for pre-construction and construction phases of the project.

ATTACHMENT A

COMPLAINT REPORT/RESOLUTION FORM

PROJECT NAME: **Inland Empire Energy Center** AFC Number: **01-AFC-17**
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 broad engineering assessment conducted for the Inland Empire Energy Center consists of separate analyses that examine facility design, engineering, efficiency, and reliability of the project. These analyses include the onsite power generating equipment and project-related facilities (transmission lines, natural gas supply pipeline, and water supply pipelines).

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 Application For Certification (AFC) describes the preliminary facility design for the project.[4] The Commission's analysis is limited, therefore, to assessing whether the power plant and linear facilities are described with sufficient detail to assure that the project can be designed and constructed in accordance with applicable engineering laws, ordinances, regulations, and standards (LORS). The analysis also considers whether special design features will be necessary to deal with unique site conditions that could impact public health and safety, the environment, or the operational reliability of the project. (Ex. 67, p. 6.1-1 et seq.)

Staff proposed several Conditions of Certification, adopted by the Commission,[5] which establish a design review and construction inspection process to verify compliance with applicable design standards and special design requirements.

[4] Ex. 1, §§ 3.0, 4.0, 5.5 and 6.0, Appendices A-G.

[5] Conditions of Certification **GEN-1** through **GEN-8**.

(Ex. 68, p. 88 et seq.) The project will be designed and constructed in conformance with the latest edition of the California Building Code (currently the 2001 CBC) and other applicable codes and standards in effect at the time construction actually begins. (Ex. 67, p. 6.1-3; Ex. 68, p. 88.) Condition of Certification **GEN-1** incorporates this requirement.

Staff considered potential geological hazards and reviewed the preliminary project design with respect to site preparation and development; major project structures, systems and equipment; mechanical systems; electrical systems; and related facilities such as the gas pipeline, water pipelines, and underground transmission lines. (Ex. 1, §§ 3.0, and 5.5, Appendices A-G; Ex. 67, p. 6.1-2 et seq.)

The project will employ site preparation and development criteria consistent with accepted industry standards. This includes design of the proposed drainage structures and grading plan, an erosion and sediment control plan, and a soils report. (Ex. 68, p 97.) 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 or facilities used for storage of hazardous or toxic materials. (Ex. 67, p. 6.1-3; Ex. 68, pp. 88-92.) Condition **GEN-2** includes a list of the major structures and equipment for the project.

The power plant site is located in Seismic Zone 4, the highest level of potential ground shaking in California. (Ex. 1, § 5.5, Appendix G; Ex. 67, p. 6.1-2.) The 2001 CBC requires specific “lateral force” procedures for different types of structures to determine their seismic design. (Ex. 68, p. 99.) To ensure that project structures are analyzed using the appropriate lateral force procedure, Condition **STRUC-1** requires the project owner to submit its proposed lateral

force procedures to the Chief Building Official (CBO)[6] for review and approval prior to the start of construction. (Ex. 67, p. 6.1-3; Ex. 68, p. 99.)

The mechanical systems for the project are designed to the specifications of applicable LORS. Conditions **MECH-1** through **MECH-3** ensure that the project complies with these standards. (Ex. 68, pp. 101-103.)

Major electrical features other than the transmission system include generators, power control wiring, protective relaying, grounding system, cathodic protection system and site lighting. (Ex. 1, Appendix E.) Condition **ELEC-1** ensures that design and construction of these electrical features will comply with applicable LORS. (Ex. 68, p. 104.)

The evidence also addresses project closure. (Ex. 67, p. 6.1-5.) To ensure that decommissioning of the facility will conform with applicable LORS to protect the environment and public health and safety, Applicant shall submit a decommissioning plan, which is described in the general closure provisions of the Compliance Monitoring and Closure plan. (*See* the Chapter entitled "**General Conditions**" in this Decision, *ante*.)

Finally, the Conditions of Certification specify the roles, qualifications, and responsibilities of engineering personnel who will oversee project design and construction. These Conditions require approval of the CBO after appropriate inspections by qualified engineers. No element of construction may proceed without approval of the CBO. (Ex. 67, p. 6.1-4.)

[6] The Energy Commission is the CBO for energy facilities certified by the Commission. We may delegate CBO authority to local building officials and/or independent consultants to carry out design review and construction inspections. When CBO duties are delegated to another entity, the Commission requires a Memorandum of Understanding with the delegated CBO to outline its roles and responsibilities and those of its subcontractors and delegates as described in Conditions of Certification **GEN-1** through **GEN-8**. (Ex. 67, p. 6.1-4; Ex. 68, p. 88 et seq.)

FINDINGS AND CONCLUSIONS

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

1. The Inland Empire Energy Center is currently in the preliminary design stage.

2. The evidence of record contains sufficient information to establish that the proposed facility can be designed and constructed in conformity with the applicable laws, ordinances, regulations, and standards (LORS) set forth in the appropriate portions of Appendix A of this Decision.

3. The Conditions of Certification set forth below will help to ensure that the project is designed and constructed both in accordance with applicable law and in a manner that protects environmental quality and public health and safety.

4. The Conditions of Certification below and the **General Conditions,** included in a separate Chapter of this Decision, establish requirements to be followed in the event of facility closure.

We therefore conclude that implementation of the Conditions of Certification listed below ensure that the Inland Empire Energy Center can be designed and constructed in conformance with applicable laws.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct, and inspect the project in accordance with the 2001 California Building Code (CBC) and all other applicable engineering LORS in effect at the time initial design plans are submitted to the CBO for review and approval. (The CBC in effect is that edition that has been adopted by the California Building Standards Commission and published at least 180 days previously.) All transmission facilities (lines, switchyards, switching stations and substations) are covered in 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 a successor to the 2001 CBC is in effect, the 2001 CBC provisions identified herein 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.

Verification: Within 30 days after 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 [2001 CBC, Section 109 – Certificate of Occupancy].

GEN-2 Prior to submittal of the initial engineering designs for CBO review, the project owner shall furnish to the CPM and to the CBO a schedule of facility design submittals, a Master Drawing List, and a Master Specifications List. 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 when requested.

Verification: At least 30 days (or project owner and CBO approved alternative timeframe) prior to the start of rough grading, the project owner shall submit to the CBO and to the CPM the schedule, the Master Drawing List, and the Master Specifications List 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 Table 1 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.

Table 1: Major Structures and Equipment List

Equipment/System	Quantity (Plant)
Combustion Turbine (CT) Foundation and Connections	2
Combustion Turbine Generator Foundation and Connections	2
Steam Turbine (ST) Foundation and Connections	1
Steam Turbine Generator Foundation and Connections	1
Heat Recovery Steam Generator (HRSG) Structure, Foundation and Connections	2
HRSG Stack Structure, Foundation and Connections	2
CT Air Inlet System Structure, Foundation and Connections	2
CT Main Transformer Foundation and Connections	2
ST Main Transformer Foundation and Connections	1
Unit Auxiliary Transformer Foundation and Connections	2
Generator Breakers Foundation and Connections	2
Water Treatment Building Structure, Foundation and Connections	1
Administration & Maintenance Building and Control Room Structure, Foundation and Connections	1
Medium Voltage Switchgear Building Structure, Foundation and Connections	1
Auxiliary Cooling Water Pump Foundation and Connections	1
Circulating Water Pumps Foundation and Connections	2
Boiler Feed Pumps Foundation and Connections	4
Cooling Tower Structure, Foundation and Connections	1
Cooling Tower Electrical Building Structure, Foundation and Connections	1
Cooling Tower Chemical Feed Foundation and Connections	1
Fire Water Tank Structure, Foundation and Connections	1
Demineralized Water Storage Tank Structure, Foundation and Connections	1
Condensate Surge Tank Structure, Foundation and Connections	1
Ammonia Storage Tank Foundation and Connections	2
Switchyard Control Building Structure, Foundation and Connections	1
HRSG Blowdown Tank Structure, Foundation and Connections	2
Ammonia Injection Skid Foundation and Connections	2
HRSG Duct Burner Skid Foundation and Connections	2
Condenser and Auxiliaries Foundation and Connections	1
Auxiliary Transformer Foundation and Connections	2
Fire Pump Skid Foundation and Connections	1

Equipment/System	Quantity (Plant)
Recycled Water Tank Structure, Foundation and Connections	1
Condensate Pumps Foundation and Connections	3
Non-Reclaimable Wastewater Tank Structure, Foundation and Connections	1
Fire Protection System	1
Auxiliary Boiler Foundation and Connections	1
Standby Generator Foundation and Connections	1
High Pressure and Large Diameter Piping	1 Lot
Switchyard, Buses and Towers	1 Lot

GEN-3 The project owner shall make payments to the CBO for design review, plan check and construction inspection 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 2001 CBC [Chapter 1, Section 107 and Table 1-A, Building Permit Fees; Appendix Chapter 33, Section 3310 and Table A-33-A, Grading Plan Review Fees; and Table A-33-B, Grading Permit Fees], adjusted for inflation and other appropriate adjustments; may be based on hourly rates; or may be as otherwise agreed 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 the 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 a resident engineer (RE) to be in general responsible charge of the project [Building Standards Administrative Code (Cal Code of Regs., tit. 24, § 4-209, Designation of Responsibilities)]. All transmission facilities (lines, switchyards, switching stations and substations) are covered in 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 each part is clearly defined as a distinct unit. Separate assignment of general responsible charge may be made for each designated part.

The RE shall:

1. Monitor construction progress of work requiring CBO design review and inspection to ensure compliance with LORS;
2. Ensure that construction of all the facilities subject to CBO design review and inspection conforms in every material respect to the applicable LORS, these Conditions of Certification, approved plans, and specifications;
3. Prepare documents to initiate changes in the approved drawings and specifications when directed by the project owner or as required by conditions on the project;
4. Be responsible for providing the project inspectors and testing agency(ies) with complete and up-to-date set(s) 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 as not conforming to the 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 conform to applicable 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 timeframe) 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) are 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-5 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) 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; d) a mechanical engineer; and e) an electrical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 requires state registration to practice as a civil engineer or structural engineer in California.] All transmission facilities (lines, switchyards, switching stations and substations) are covered in 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 (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 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 [2001 CBC, Section 104.2, Powers and Duties 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. Design, or be responsible for design, 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
2. 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 in the construction procedures.

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

1. Review all the engineering geology reports and prepare final soils grading report;

2. Prepare the soils engineering reports required by the 2001 CBC, Appendix Chapter 33, Section 3309.5, Soils Engineering Report; and Section 3309.6, Engineering Geology Report;

3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2001 CBC, Appendix Chapter 33; Section 3317, Grading Inspections;

4. Recommend field changes to the civil engineer and RE;

5. Review the geotechnical report, field exploration report, laboratory tests, and engineering analyses detailing the nature and extent of the site soils that may be susceptible to liquefaction, rapid settlement, or collapse when saturated under load; and

6. Prepare reports on foundation investigation to comply with the 2001 CBC, Chapter 18 section 1804, Foundation Investigations.

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 [2001 CBC, section 104.2.4, Stop orders].

C: 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.

D: 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 with all of the mechanical engineering design requirements set forth in the Energy Commission's Decision.

E: 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 timeframe) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, resumes 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 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 2001 CBC, Chapter 17 [Section 1701, Special Inspections; Section 1701.5, Type of Work (requiring special inspection)]; and Section 106.3.5, Inspection and observation program. All transmission facilities (lines, switchyards, switching stations and substations) are covered in Conditions of Certification in the **Transmission System Engineering** section of this document.

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 [2001 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]; 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 and specifications as well as the applicable provisions of the applicable edition of the CBC.

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).

Verification: At least 15 days (or project owner and CBO approved alternative timeframe) 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 the corrective action required [2001 CBC, 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 be submitted to the CBO for review and approval. The discrepancy documentation shall reference this Condition of Certification and, if appropriate, the 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. When the work and the "as-built" and "as graded" plans conform to the approved final plans, the project owner shall notify the CPM regarding the CBO's final approval. The marked up "as-built" drawings for the construction of structural and

architectural work shall be submitted to the CBO. Changes approved by the CBO shall be identified on the "as-built" drawings [2001 CBC, Section 108, Inspections]. The project owner shall retain one set of approved engineering plans, specifications, and calculations at the project site or at another accessible location during the operating life of the project [2001 CBC, Section 106.4.2, Retention of Plans].

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 final approved engineering plans, specifications and calculations as described above, the project owner shall submit to the CPM a letter stating that the above documents have been stored and indicate the storage location of such documents.

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 report as required by the 2001 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report; and Section 3309.6, Engineering Geology Report].

Verification: At least 15 days (or project owner and CBO approved alternative timeframe) 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 geotechnical engineer or 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 [2001 CBC, Section 104.2.4, Stop 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 the CPM a copy of the CBO's approval.

CIVIL-3 The project owner shall perform inspections in accordance with the 2001 CBC, Chapter 1, Section 108, Inspections; Chapter 17, Section 1701.6, Continuous and Periodic Special Inspection; and Appendix Chapter 33, Section 3317, Grading Inspection. 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 [2001 CBC, Appendix Chapter 33, Section 3317.7, Notification of Noncompliance]. The project owner shall prepare a written report detailing all discrepancies and non-compliance items, and the proposed corrective action, and send copies to the CBO and the CPM.

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. 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 [2001 CBC, Section 3318, Completion of Work].

Verification: Within 30 days 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 plan (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. 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 **Table 1** 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 1**, above):

1. Major project structures;

2. Major foundations, equipment supports and anchorage;

3. Large field fabricated tanks;

4. Turbine/generator pedestal; and

5. Switchyard structures.

Construction of any structure or component shall not commence 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 (i.e., 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 [2001 CBC, Section 108.4, 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 at least 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation [2001 CBC, Section 106.4.2, Retention of plans; and Section 106.3.2, Submittal documents]; and

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 [2001 CBC, Section 106.3.4, Architect or Engineer of Record].

Verification: At least 30 days (or project owner and CBO approved alternative timeframe) prior to the start of any increment of construction of any structure or component listed in Table 1 of Condition of Certification **GEN-2** above, the project owner shall submit to the CBO, with a copy to the CPM, the responsible design engineer's signed statement that the final design plans, specifications, and calculations conform with all of the requirements set forth in the Energy Commission's Decision.

If the CBO discovers non-conformance with the stated requirements, the project owner shall resubmit the corrected plans to the CBO within 20 days of receipt of the nonconforming submittal, with a copy of the transmittal letter to the CPM.

The project owner shall submit to the CPM a copy of a statement from the CBO that the proposed structural plans, specifications, and calculations have been approved and are in conformance with the requirements set forth in the 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 2001 CBC, Chapter 17, Section 1701, Special Inspections; Section 1701.5, Type of Work (requiring special inspection); Section 1702, Structural Observation and Section 1703, Nondestructive Testing.

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 to the CBO, with a copy of the transmittal letter to the CPM [2001 CBC, Chapter 17, Section 1701.3, Duties and Responsibilities of the Special Inspector]. 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 2001 CBC, Chapter 1, Section 106.3.2, Submittal documents and Section 106.3.3, Information on plans and specifications, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes, and shall give the CBO prior notice of the intended filing.

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 Chapter 3, Table 3-E of the 2001 CBC 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 timeframe) 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 Table 1, 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 said construction [2001 CBC, Section 106.3.2, Submittal Documents; Section

108.3, Inspection Requests; Section 108.4, Approval Required; 2001 California Plumbing Code, Section 103.5.4, Inspection Request; Section 301.1.1, Approval].

The responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations for the major piping and plumbing systems subject to the CBO design review and approval, and submit a signed statement to the CBO when the said proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations, and industry standards [Section 106.3.4, Architect or Engineer of Record], which may include, but not be 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
- Specific City/County code.

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [2001 CBC, Section 104.2.2, Deputies].

Verification: At least 30 days (or project owner and CBO approved alternative timeframe) prior to the start of any increment of major piping or plumbing construction listed in Table 1, 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 the 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 the 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 said installation [2001 CBC, Section 108.3, 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 timeframe) 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 said 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 [2001 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record].

Verification: At least 30 days (or project owner and CBO approved alternative timeframe) 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 electrical equipment and systems 480 volts and higher listed 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 [CBC 2001, Section 106.3.2, 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 [2001 CBC, Section 108.4, Approval Required, and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations, and substations) are covered in Conditions of Certification in the **Transmission System Engineering** section of this document.

A. Final plant design plans to 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 to 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 timeframe) 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 (non-renewable fuel) will result in adverse environmental impacts on energy resources. [Cal. Code of Regs., tit. 14, § 15126.4(a)(1), Appendix F.] This analysis reviews the efficiency of project design and identifies measures that prevent wasteful, inefficient, or unnecessary energy consumption.

SUMMARY AND DISCUSSION OF THE EVIDENCE

Pursuant to CEQA Guidelines, Staff assessed whether the use of natural gas by the IEEC would result in: (1) an adverse effect on local and regional energy supplies and resources; (2) the need for additional energy supply capacity; (3) noncompliance with existing energy standards; or (4) the wasteful, inefficient, and unnecessary consumption of fuel or energy. (Ex. 67, p. 6.3-2.)

1. Potential Effects on Energy Supplies and Resources

The IEEC will burn natural gas under base load and peak load at rates of 77.9 billion Btu per day and 103.6 billion Btu per day lower heating value (LHV) respectively. (Ex. 1, § 3.4.2; Ex. 67, p. 6.3-2.) According to Staff, this is a substantial rate of energy consumption that could impact energy supplies or resources. (Ex. 67, p. 6.3-2; Cal. Code of Regs., tit. 14, § 15000 et seq., Appendix F.) Additional testimony establishes that the project will use energy efficiently, and not adversely effect energy supplies.

2. Need for Additional Energy Supplies or Capacity

The IEEC will burn natural gas from the existing Sempra Energy system. Gas will be transmitted to the plant via a new 20-inch diameter, 0.9-mile pipeline connection to an existing Sempra Energy natural gas transmission line. (Ex. 1,

§§1.5.4, 3.4.8, 3.7.2, and 3.10.3; Ex. 67, p. 6.3-3.) Staff testified that for the next few years, natural gas supplies appear to be adequate to supply the IEEC. Beyond this time frame, a new interstate transmission line will likely be needed to supply these markets with inexpensive natural gas. Staff testimony indicated that free market forces will work to ensure that a new interstate natural gas transport system is constructed, or some other means are developed to provide natural gas to the IEEC and San Diego area. (Ex. 67, p. 6.3-3.)

3. Compliance with Energy Standards

No standards apply to the efficiency of IEEC or other non-cogeneration projects. (Ex. 67, p. 6.6-3; s*ee* Pub. Resources Code, § 25134.)

4. Alternatives to Wasteful or Inefficient Energy Consumption

Applicant provided information on alternative generating technologies, which were reviewed by Staff. (Ex. 1, §3.10; Ex. 67, p. 6.3-6; *See* the **Alternatives** section of this Decision.) Given the project objectives, location, and air pollution control requirements, Staff concluded that only natural gas-burning technologies are feasible. (*Ibid*.) Staff also reviewed alternatives to an F-class gas turbine and concluded that the project configuration and generating equipment appear to be the most efficient feasible combination to satisfy project objectives. (Ex. 67, p. 6.3-7.)

Under expected project conditions, electricity will be generated at a base load efficiency of approximately 56.5 percent LHV without duct firing and 53.2 percent LHV with duct firing.[7] (Ex. 67, pp. 6.3-2 to 6.3-3.)

[7] The average fuel efficiency of a typical utility company base load power plant is approximately 35 percent LHV. (Ex. 67, p. 6.3-3.)

Project fuel efficiency, and therefore its rate of energy consumption, is determined by the configuration of the power producing system and by selection of generating equipment. (Ex. 67, p. 6.3-3.) IEEC is configured as a combined cycle power plant. Electricity will be produced by two gas turbines with a reheat steam turbine that operates on heat energy recuperated from gas turbine exhaust. (Ex. 1, §§ 1.5.2, 3.4.2.) By recovering this heat, which would otherwise be lost up the exhaust stacks, the efficiency of a combined cycle power plant is considerably increased compared with either a gas turbine or a steam turbine operating alone. Staff concluded that the proposed configuration is well suited to the large, steady loads met by a base load plant. (Ex. 67, p. 6.3-4.) Staff's testimony establishes that the two-train CT/HRSG configuration also allows for high efficiency during unit turndown because one CT can be shut down, leaving one fully loaded, efficiently operating CT. *(Ibid.)*

Applicant plans to use two large advanced model General Electric (GE) Power Systems "F" class combustion turbine generators in a two-on-one combined cycle power train. Staff testified that the F-class gas turbines to be employed in the IEEC represent some of the most modern and efficient machines now available. (Ex. 1, § 3.4.3.1) This configuration is nominally rated at 530 MW and 56.5 percent efficiency LHV at ISO conditions. (Ex. 67, p. 6.3-5.) At base load, the plant will be operating at a heat rate of approximately 6,700 Btu/kwh on a higher heating value basis. The incremental heat rate for peaking capacity will range from 8,100 to 9,000 Btu/kwh (HHV), depending on ambient and operating conditions, (Ex. 1, p. 3-10.)

A unique feature of the IEEC is that the duct burners are much larger than normal. Information provided by Applicant demonstrates that the IEEC will operate as a net 538 MW baseload power plant, with an additional 162 to 166 MW of peaking capacity achieved through the use of unusually large duct burners. From a fuel efficiency standpoint the IEEC, as proposed, represents the

equivalent of a two-on-one combined cycle power plant producing 538 MW, plus four LM6000 simple cycle peakers generating an additional 162 to 166 MW. (Ex. 67, p. 6.3-5.)

Staff also analyzed whether the IEEC would result in cumulative energy consumption impacts. Staff concluded that there are no nearby projects that have the potential for cumulative consumption or energy impacts. (Ex. 67, p. 6.3-8.)

FINDINGS AND CONCLUSIONS

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

1. IEEC will not require the development of new fuel supply resources since natural gas resources exceed the fuel requirements of the project.
2. IEEC will not consume natural gas in a wasteful, inefficient, or unnecessary manner.
3. The project configuration and choice of generating equipment represent the most feasible combination to achieve project objectives.
4. The project design, incorporating a two-on-one combined cycle power train and employing two advanced modeled GE Power Systems “F” class turbines, will allow the power plant to generate electricity at full load with optimal efficiency.
5. The anticipated operational efficiency of the project is consistent with that of comparable power plants using similar technology and significantly more efficient than older power plants.

The Commission, therefore, concludes that IEEC will not cause any significant direct, indirect, or cumulative adverse impacts upon energy resources. No Conditions of Certification are required for this topic.

C. POWER PLANT RELIABILITY

The Warren-Alquist Act requires the Commission to examine the safety and reliability of the proposed power plant, including provisions for emergency operations and shutdowns. [(Pub. Resources Code, § 25520(b).] There are presently no laws, ordinances, regulations, or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Commission must determine whether the project will be designed, sited, and operated to ensure safe and reliable operation. [(Cal. Code of Regs., tit. 20, § 1752(c)(2).]

In California's restructured electric power market, the California Independent System Operator (Cal-ISO) has the primary responsibility for maintaining system reliability. To provide an adequate supply of reliable power, Cal-ISO has imposed certain requirements on power plants selling ancillary services and holding reliability must-run contracts, such as: (1) filing periodic reports on reliability; (2) reporting all outages and their causes; and (3) scheduling all planned maintenance outages with the Cal-ISO. However, neither Cal-ISO nor other power grid operators have established clear guidelines for reliability standards. While we acknowledge the evolving nature of state policy on power production and distribution, our findings in this case are limited to the evidence of record. The Commission believes that power plant owners should continue to maintain the same levels of reliability that the power industry has achieved in recent years. (Ex. 67, p. 6.4-2.)

Summary and Discussion of the Evidence

Staff examined the project's design criteria to determine whether it will be built in accordance with typical power industry norms for reliable electricity generation. (Ex. 67, p. 6.4-3 et seq.) According to Staff's testimony, project safety and

reliability are achieved by ensuring equipment availability, plant maintainability, fuel and water availability, and adequate resistance to natural hazards. *(Ibid.)*

1. Equipment Availability

The Applicant will ensure equipment availability by use of quality assurance/quality control programs (QA/QC) which include inventory review, and equipment inspection and testing on a regular basis during design, procurement, construction, and operation. Condition of Certification **MECH-1** (See **Facility Design**) requires the Applicant to include applicable QA/QC procedures in the final design specifications for the project. Qualified vendors of plant equipment and materials will be selected based on past performance and independent testing contracts to ensure acquisition of reliable equipment. (Ex. 67, p. 6.4-3; Ex. 68, pp. 101-102.)

2. Plant Maintainability

The evidentiary record indicates that project design includes appropriate redundancy of equipment to ensure continued operation in the event of equipment failure. (Ex. 1, § 3.4.2, 4.3.2, Appendix F; Ex. 67, p. 6.4-3.) Project maintenance will be typical of the industry, including preventive and predictive techniques. Any necessary maintenance outages will be planned for periods of low electricity demand. (Ex. 1, §§ 4.3.5, Ex. 67; p. 6.4-4.)

3. Fuel and Water Availability

Reasonable long-term availability of fuel and water is necessary to ensure project reliability. As discussed in the Chapter on **Power Plant Efficiency**, the IEEC will burn natural gas from the existing Sempra system. Gas will be transmitted to the plant via a new 20-inch diameter, 0.9-mile pipeline connection to an existing Sempra Energy natural gas transmission line. (Ex. 1, §§ 11.5.4, 3.4.8, 3.72; Ex.

67, p. 6.4-4.) The evidence of record is uncontroverted that there will be adequate natural gas supply and pipeline capacity to meet the project's needs. *(*Ex. 67, p. 6.4-5.*)*

The IEEC will obtain recycled water for cooling and process make-up from Eastern Municipal Water District (EMWD). EMWD will make up any deficiencies in its recycled water distribution system by supplementing recycled water with raw water from Metropolitan Water District (MWD). (Ex. 1, §§ 1.5.6, 3.4.9, and Appendix M.) Potable water for domestic and fire water supply to the project will also be provided by EMWD. The IEEC will include a 2.5 million gallon water storage tank, sized to supply approximately eight hours of operational storage, should the recycled water supply be disrupted. (Ex. 1 §§ 3.4.9, 3.4.9.6 and 3.4.9.9.) Staff testified that these sources yield sufficient likelihood of a reliable supply of water. (Ex. 67, p. 6.5-4.) (For further discussion of water supply, see the **Soil and Water Resources** section of this Decision.)

4. Natural Hazards

The site is located in Seismic Zone 4 where several active earthquake faults create the potential for seismic shaking to threaten reliable operation. (Ex. 67, p. 6.4-5; *See* **Geology and Paleontology**.) IEEC will be designed and constructed to comply with current applicable LORS for seismic design.[8] Condition of Certification **STRUC-1** in the **Facility Design** Chapter of this Decision ensures that the project will conform with seismic design LORS.

5. Availability Factors

[8] Staff expects the project, designed to current seismic standards, will perform at least as well as or better than existing plants in a seismic event. In light of the historical performance of California power plants and the electrical system in seismic events, Staff believes there is no special concern with power plant functional reliability affecting the electric system's reliability due to seismic events. (Ex. 67, p. 5.4-6.)

Applicant predicts the project will have an equivalent availability factor between 92 and 98 percent. (Ex. 67, p. 5.4-6.) Industry statistics for power plant availability, which are compiled by the North American Electric Reliability Council (NERC), show an availability factor of 90.96 percent for combined cycle units of all sizes. (*Ibid*.) Since the plant will consist of two parallel gas turbine generating trains, maintenance can be scheduled during those times of year when the full plant output is not required to meet market demand, typical of industry standard maintenance procedures. The procedures identified by Applicant for assuring design, procurement and construction of a reliable power plant appear to be in keeping with industry norms, and Staff's testimony supports the conclusion that these procedures are sufficient to maintain an adequately reliable plant. *(Ibid.)*

FINDINGS AND CONCLUSIONS

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

1. The Inland Empire Energy Center (IEEC) will ensure equipment availability by implementing quality assurance/quality control (QA/QC) programs and by providing adequate redundancy of auxiliary equipment to prevent unplanned off-line events.

2. IEEC's project design incorporates distributed control and monitoring systems to provide inherent reliability.

3. Planned maintenance outages will be scheduled during times of low electricity demand.

4. There is adequate water availability for project operations.

5. The project is designed to withstand seismic shaking that would compromise project safety and reliability.

6. The project's estimated 92-98 percent availability factor is consistent with industry norms for power plant reliability.

7. There is an adequate natural gas supply and pipeline capacity to meet the project's needs.

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 record indicates that the Applicant in this case accurately identified all interconnection facilities for Commission review.

Applicant submitted a System Impact Study in conformance with Section 2022(b)(3) of the Energy Commission's regulations. (Cal. Code of Regs., tit. 20, § 2022(b)(3); *see* Ex. 1, § 3.6, Appendix I.) The California Independent System Operator (Cal-ISO) is responsible for ensuring electric system reliability for all participating transmission owning utilities. Cal-ISO determines both the standards necessary to achieve reliability and whether a proposed project conforms with those standards. Staff also provided an extensive evaluation of potential system reliability impacts of the project. (Ex. 67, p. 6.5-3 et seq.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

Applicant proposes to construct a nominal 538 MW baseload (670 MW peaking) natural gas-fired combined cycle generating facility, with a 500 kV switchyard to be located in southwestern Riverside County. The interconnection to the existing Southern California Edison (SCE) transmission system will be at SCE's Valley Substation. A new 0.9-mile, 500 kV transmission line will be constructed to connect the project switchyard to the SCE Valley Substation. (Ex. 1, § 3.6.1.) No downstream facilities are required to maintain system reliability. (Ex. 67, p. 6.5-1.)

Interconnection Facilities

The IEEC will consist of three generating units, two 175 MW combustion turbine generators, each with an auxiliary load of 5 MW and a 329 MW steam generator, for a total nominal peaking output of 670 MW. (Ex. 1, p. 1-3; Ex. 67, pp. 6.5-2, 6.5-3.) Each generating unit will be connected to a 18/500 kV step-up transformer and the high voltage terminals of the transformers will be connected to the new IEEC 500 kV switchyard by overhead conductors. (Ex. 1, p. 3-16.) The switchyard will be connected to the existing Southern California Edison Valley Substation via a new 0.9-mile 500 kV transmission line using two 2156-kilo circular mills (kcmil) aluminum cable steel reinforced (ACSR) conductors per phase. (Ex. 3, Attachment 10, p. 3.) Beyond the interconnection facilities and switchyard, no other new transmission facilities will be required for the reliable interconnection of the project. (Ex. 67, p. 6.5-3.)

According to Staff, this configuration for the interconnection and switchyard is in accordance with good utility practices and is considered acceptable. (Ex. 67, p. 6.5-3.) Staff reviewed the engineering design for the transmission facilities and proposed four Conditions of Certification to ensure compliance with standard industry requirements. (Ex. 68, pp. 111-112.) We have adopted Conditions of Certification **TSE-1** through **TSE-4,** which require the Applicant to design, construct, and operate the new facilities in conformance with applicable laws, ordinances, regulations, and standards (LORS). Any planned, unexpected temporary, or unexpected permanent closure of the IEEC shall be subject to the Compliance Monitoring and Closure Plan contained in the **General Conditions** of this Decision. (*Id*., p. 122.)

Potential Impacts on System Reliability

A System Impact Study and Facility Study were performed to determine the alternate and preferred interconnection facilities to the grid, downstream transmission system impacts and their mitigation measures in conformance with system performance levels as required in utility reliability criteria, NERC planning standards, WSCC reliability criteria and Cal-ISO reliability criteria. New proposed transmission facilities, including the power plant switchyard, the outlet line, and downstream facilities required for connecting a project to the grid were considered part of the project and subjected to Staff's full review. (Ex. 67, p. 6.5-3.)

The SCE transmission system was analyzed under two system conditions: a) 2004 Heavy Summer base case with high Southern California load levels and very high internal SCE eastern area generation; and b) 2004 Light Spring base case with low Southern California load levels and very high internal SCE eastern area generation. The study included Load Flow Analysis, Transient Stability Study, Post-transient Load Flow Study and a Short Circuit Study. (Ex. 67, p. 6.5-4.)

The Load Flow Analysis indicated that the interconnection of the IEEC will not cause any normal or contingency overloads in either the Heavy Summer or Light Spring analysis. (*Ibid.*) The results of the Transient Stability Study indicated there are no transient stability concerns on the transmission system following the selected disturbances for integration of the IEEC project. The short circuit study performed by SCE evaluated the impact of the IEEC project on the fault duties within SCE bulk transmission system. *(Ibid.*) A number of circuit breakers may be over stressed due to the increased duty. To accommodate interconnection of the IEEC project, Staff testified that circuit breaker replacement at buses should be evaluated to offset downstream adverse impacts on the twenty-nine bulk power substations and eighteen 115 kV substations. (Ex. 67, p. 6.5-6.) No

normal or emergency line overloads were identified in the System Impact Study or the Facility Study for the IEEC and the project will not require significant downstream facilities for interconnection. (Ex. 67, p. 6.5-3.) Condition of Certification **TSE-1** will assure conformance with reliability criteria.

Staff testified that it does not expect any cumulative impacts that will not be identified and mitigated by projects other than the proposed IEEC project in the main SCE area of southern California. Except for a few radial networks, the SCE electric system is highly redundant[9] and has been be able to accommodate the generation of new power plants without requiring downstream electric facilities. Currently only two proposed plants, the Palomar Energy Project and the El Segundo Redevelopment Project, are located electrically near the IEEC. Impacts from plants located outside the main SCE system are electrically isolated from the IEEC and will not have associated cumulative impacts. (Ex. 67, pp. 6.5-4, 6.5-5.)

FINDINGS AND CONCLUSIONS

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

1. The Inland Empire Energy Center (IEEC) will interconnect to the existing Southern California Edison (SCE) transmission system at an on-site switchyard.

2. A new 0.9-mile, 500 kV transmission line will be constructed to connect the project switchyard to the SCE Valley Substation.

3. The configuration of the switchyard and interconnection facilities are consistent with good utility practices.

4. SCE performed System Impact and Facilities Studies for Applicant to analyze the potential reliability and congestion impacts likely to occur when the IEEC connects to the grid.

[9] According to Staff, the main Edison network is highly interconnected with many lines over which power can flow. Thus the generation from new plants is dispersed throughout the network limiting the impact of new generation on specific transmission lines. (Ex. 67, p. 6.5-4.)

5. No normal or emergency line overloads were identified in either the System Impact Study or the Facility Study for the IEEC.

6. The project will not require significant downstream facilities for interconnection.

7. The Conditions of Certification ensure that the transmission interconnection facilities will be designed, constructed, and operated in a manner consistent with all applicable laws, ordinances, regulations, and standards (LORS).

8. The project will not contribute to cumulative transmission system impacts.

The Commission, therefore, concludes that implementation of the measures specified in the Conditions of Certification listed below will ensure compliance with all applicable laws, ordinances, regulations, and standards (LORS) related to Transmission System Engineering as identified in **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities shall conform to all applicable LORS including the requirements 1a) through 1f) listed below. The substitution of Compliance Project Manager (CPM) approved "equivalent" equipment and an equivalent substation configuration is acceptable.

a) The power plant switchyard and outlet lines shall meet or exceed the electrical, mechanical, civil and structural requirements of SCE interconnection standards, Cal-ISO Interconnection Requirements, SCE's Detailed Facilities Study (DFS), CPUC General Orders 95 (GO-95) or National Electric Safety Code (NESC), Title 8 of the California Code of Regulations, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", National Electric Code (NEC), and related industry standards.

b) Breakers and buses in the power plant switchyard and other switchyards, where applicable, shall be sized to comply with a short-circuit analysis.

c) 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.

d) Termination facilities shall comply with applicable interconnection standards.

e) The project conductors shall be sized to accommodate the full output from the project.

f) The project owner shall provide:

I. Any modified Detailed Facility Study (DFS) including a description of facility upgrades, operational mitigation measures, and/or Remedial Action Scheme (RAS) or Special Protection System (SPS) sequencing and timing if applicable,

II. The executed Facility Interconnection Agreement with SCE.

Verification: At least 30 days prior to the start of grading of the power plant switchyard or transmission facilities, the project owner shall submit to the CPM for approval:

Electrical one line diagrams signed and sealed by a registered professional electrical engineer in responsible charge (or other approval acceptable to the CPM), a route map, and an engineering description of equipment and the configurations covered by the requirements 1a) through 1f) above.

The Detailed Facilities Study including a description of facility upgrades, operational mitigation measures and/or RAS or SPS, and the Utility Interconnection Agreement and the Cal-ISO Participating Generator Agreement (if either one are not otherwise provided to the Commission previously). Substitution of equipment and substation configurations shall be identified and justified by the project owner for CPM approval.

TSE-2 The project owner shall inform the CPM of any impending changes that may not conform to the requirements 1a) through 1f) of **TSE-1** and have not received CPM approval, and request approval to implement such changes. A detailed description of the proposed change and complete engineering, environmental, and economic rationale for the change shall accompany the request. Construction involving changed equipment or substation configurations shall not begin without prior written approval of the changes by the CPM.

Verification: At least 30 days prior to the construction of the power plant switchyard and transmission facilities, the project owner shall inform the CPM of any impending changes that may not conform to requirements 1a) through 1f) of **TSE-1** and request approval to implement such changes.

TSE-3 The project owner shall be responsible for the inspection of the transmission facilities during project construction, and any subsequent CPM approved changes thereto, to ensure conformance with CPUC GO-95 or NESC, Title 8 of the California Code of Regulations, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", SCE's interconnection standards, NEC, related industry standards, and these conditions. In case of non-conformance, the project owner shall inform the CPM 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 to the grid, the project owner shall transmit to the CPM an engineering description(s) and one-line diagrams of the "as built" facilities signed and sealed by the registered electrical engineer in responsible charge (or other verification acceptable to the CPM, such as a letter stating that the attached diagrams have been verified by the engineer). A statement attesting to conformance with CPUC GO-95 or NESC, Title 8 of the California Code of Regulations, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", SCE's interconnection standards, NEC, related industry standards, and these conditions.

TSE-4 The project owner shall provide the following Notice to the California Independent System Operator (Cal-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 Cal-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 ISO Outage Coordination Department.

Verification: The project owner shall provide copies of the Cal-ISO letter to the CPM when it is sent to the Cal-ISO one week prior to initial synchronization with the grid. The project owner shall contact the Cal-ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 and 1530 at (916) 351-2300 at least one business day prior to synchronizing the facility with the grid for testing. A report of conversation with the Cal-ISO shall be provided electronically to the CPM one day before synchronizing the facility with the California transmission system for the first time.

DEFINITION OF TERMS

ACSR Aluminum cable steel reinforced.

SSAC Steel Supported Aluminum Conductor.

AAC All Aluminum conductor.

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.

Kiloampere (kA) 1,000 Amperes

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 Congestion management is a scheduling protocol, which provides that dispatched generation and transmission loading (imports) would 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. 1,000 Volts.

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 Megavolt 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, equals the product of the line voltage in kilovolts, current in amperes, the square root of 3, and divided by 1000.

Megawatt (MW) A unit of power equivalent to 1,341 horsepower.

Normal Operation/ Normal Overload When all customers receive the power they are entitled to without interruption and at steady voltage, and no element of the transmission system is 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 power flow analysis is 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 Reactive power is generally associated with the reactive nature of inductive loads like 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) A remedial action scheme is an automatic control provision, which, for instance, would trip a selected generating unit upon a circuit overload.

SF6 Sulfur hexafluoride is an insulating medium.

Single Contingency Also known as emergency or N-1 condition, occurs 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 A power plant switchyard (switchyard) is an integral part of a power plant and is used as an outlet for one or more electric generators.

Thermal rating See ampacity.

TSE Transmission System Engineering.

TRV Transient Recovery Voltage

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 environmental quality, assures public health and safety, and complies with applicable law. This section reviews the potential impacts of the transmission lines on aviation safety, radio-frequency interference, fire hazards, nuisance shocks, hazardous shocks, and electric and magnetic field exposure.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Description of Transmission Lines

The proposed IEEC transmission line will consist of: a new 0.9-mile 500 kV overhead line; the new IEEC 500 kV switchyard; and relatively minor project-related modifications at specific area 115 kV substations. (Ex. 67, p. 5.11-7.) The new line will be located within the corridor of three existing SCE transmission lines that run immediately south of the project. The nearest residence to the proposed route is a rural residence approximately 125 feet away. Other residences are much farther away (Ex. 1, Figure 5.9-1, pp. 4-2, 4-5; Ex. 67, p. 5.11-7.) The transmission interconnection will require five new tower structures between Valley Substation and the IEEC switch yard. The new transmission line structures will be 80 to 162 feet high. (Ex. 1, p. 4-2.)

2. Potential Impacts

a. Electric and Magnetic Field 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. (Ex. 67, p. 5.11-4.) In the face of the present uncertainty, several states, including California, have opted for design-driven regulations which are intended to ensure that fields from new lines are generally similar in intensity to

those from existing lines of similar voltage and current-carrying capacity. (*Id*., at p. 5.11-5.)

Applicant estimated the maximum field strengths possible along the route of a typical 500 kV line to gauge the appropriateness of the proposed line design for the intended field strength minimization. (Ex. 1, p. 4-5). The maximum electric field strength was estimated to be between 1.32 kV/m and 1.7 kV/m at the edge of the right-of-way. The maximum magnetic field was estimated as 73 mG within the same right-of-way, diminishing to 44 mG at the edge of the right-of-way. The testimony indicates these line magnetic field strengths are much lower than the 150 mG to 250 mG specified for the edges of the rights-of-way by the few states with regulatory limits on line magnetic fields. (Ex. 67, p. 5.11-9.) Actual field strengths will be established from the field strength measurements required in **TLSN-4**. (Ex. 67, p. 5.11-9; Ex. 68, p. 75.)

The field reduction approaches that are typically employed in the proposed line design include the following:

1. Increasing the distance between the conductors and the ground;
2. Reducing the spacing between the conductors; and
3. Minimizing the line current (with specific respect to the magnetic field).

The IEEC line will be designed in keeping with the CPUC requirement for design according to the guidelines of SCE, the major utility in the project area. According to applicable guidelines, such design constitutes compliance with present CPUC policy on electric and magnetic field management. (Ex. 67, p. 5.11-7.)

b. Other Potential Impacts

The Federal Aviation Administration (FAA) requires notification of any construction taller than 200 feet or any construction within restricted airspace in the approach to airports. The closest airport to IEEC and related facilities is

Perris Valley Airport, approximately 2.5 miles northeast of the site. As noted by Applicant, the proposed transmission line does not pose a collision hazard to utilizing aircraft when judged according to current FAA criteria regarding the minimum distance and direction from the primary runway. (Ex. 1, p. 4-3.) Furthermore, at a maximum height of 162 feet, the line's support towers would not be tall enough to pose a collision hazard to area aircraft as defined using the applicable FAA criteria. (Ex. 67, p. 5.11-8.)

Federal Communications Commission (FCC) regulations prohibit operation of devices that interfere with radio communications even if such devices are not intentionally designed to produce radio-frequency energy. Since the potential for such corona-related audible noise and interference is of specific concern for lines of 345 kV and above, Applicant conducted a noise survey that included the area around the existing 500 kV SCE line with which the proposed line would share a right-of-way. (Ex.1, pp. 5.9-4 through 5.9-13.) The results of this survey indicated that the low crackling or sizzling sound from the existing 500 kV line was audible primarily within the right-of-way without adding significantly to the background noise in the area beyond this right-of-way. The low-corona design for the proposed line would be the same as used for the existing 500 kV line. (Ex. 67, p. 5.11-8.)

The nearest residence is about 125 feet from the proposed route; therefore, Staff does not expect the IEEC line to generate any complaints about operational noise, or interference with the residential radio or television interference of concern. Condition **TLSN-3** will require the project owner to take reasonable steps to resolve any complaints of interference with radio or television signals from the operation of the proposed line. (Ex. 68, p. 75.)

Nuisance or hazardous shocks can result from direct or indirect contact with an energized line or metal objects located near the line. The potential for nuisance shocks around the proposed lines will be minimized through standard grounding

practices. (Ex. 1, p. 4-6.) Condition of Certification **TLSN-2** will ensure such grounding. Applicant will implement the GO-95- related measures against direct contact with the energized line (Ex. 1, pp. 4-6 and 6-7); these will serve to minimize the risk of hazardous shocks. Condition of Certification **TLSN-1** will ensure implementation of the necessary mitigation measures.

FINDINGS AND CONCLUSIONS

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

1. The Inland Empire Energy Center (IEEC) will connect to the existing SCE transmission system.

2. The proposed IEEC transmission line will consist of a new 0.9-mile 500 kV overhead line; the new IEEC 500 kV switchyard; and relatively minor project-related modifications at specific area 115 kV substations.

3. Neither the California Public Utilities Commission nor any other regulatory agency in California has established limits on public exposure to electric and magnetic fields from power lines.

4. The IEEC line will be designed in keeping with present CPUC policy on electric and magnetic field management.

5. Maximum cumulative exposure from electric and magnetic fields from the project's transmission lines will likely fall within normal background levels of 1.0 mG or less.

6. The project will not result in significant adverse environmental impacts to public health and safety nor cause impacts in the areas of aviation safety, radio frequency communication, fire hazards, nuisance or hazardous shocks, or electric and magnetic field exposure.

We, therefore, conclude that with the implementation of the Conditions of Certification, below, the project will comply with all applicable laws, ordinances, regulations, and standards relating to transmission line safety and nuisance as identified in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

TLSN-1 The project owner shall ensure that the proposed interconnection transmission lines are constructed according to the requirements of CPUC's GO-95, applicable requirements of Title 8, Section 2700 et seq. of the California Code of Regulations, and SCE's EMF reduction guidelines arising from CPUC Decision 93-11-013.

Verification: Thirty days before starting construction of the IEEC's transmission line or related structures and facilities, the project owner shall submit to the Energy Commission's Compliance Project Manager (CPM) a letter signed by a transmission line owner's responsible manger affirming that the overhead section will be constructed according to the requirements GO-95, applicable requirements of Title 8, Section 2700 et seq. of the California Code of Regulations, and SCE's EMF-reduction guidelines arising from CPUC Decision 93-11-013.

TLSN-2 The project owner shall ensure that all metallic objects along the route of the overhead section are grounded according to industry standards. Those portions of the overhead section that are transferred to a regulated public utility that is subject to a substantively similar requirement shall no longer be subject to this condition.

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.

TLSN-3 The project owner shall take reasonable steps to resolve any complaints of interference with radio or television signals from operation of the proposed line.

Verification: Any reports of line-related complaints shall be summarized along with related mitigation measures and provided in an annual report to the CPM. Such a yearly summary shall be provided for only the first five years of operation.

TLSN-4 The project owner shall utilize a qualified individual or individuals to measure the strengths of the electric and magnetic fields encountered within the proposed line right-of-way after the start of plant operation. Measurements shall be made at representative points (along the line route) to verify the design assumptions relative to field strengths. Any corrective action necessary will depend on the results of these measurements.

Verification: The project owner shall file copies of the post-energization measurements with the CPM within 60 days after the plant commercial operation date.

V. PUBLIC HEALTH AND SAFETY ASSESSMENT

Operation of the Inland Empire Energy Center will create combustion products and utilize certain hazardous materials that could expose the general public and workers at the facility to potential health effects. 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. The Commission must find that the project complies with all applicable laws, ordinances, regulations, and standards related to air quality. National ambient air quality standards (NAAQS) have been established for air contaminants identified as "criteria air pollutants." These include sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), lead (Pb), and particulate matter less than 10 microns in diameter (PM_{10}). New standards have been set for particulate matter less than or equal to 2.5 microns ($PM_{2.5}$.)[10] Also included in this review are the precursor pollutants for ozone, which are nitrogen oxides (NO_x) and volatile organic compounds (VOC; also regulated as "ROG"—reactive organic gas), and the precursors for PM_{10}, which are NO_x, VOC, and sulfates (SO_x). (Ex. 1, § 5.2.1.2; Ex. 67, p. 5.1-1 et seq.)

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[10] New, more stringent state-level standards for PM_{10} and $PM_{2.5}$ became effective on July 5, 2003. (Ex. 68, p. 1.) The air agencies in California are now deploying $PM_{2.5}$ ambient air quality monitors throughout the state to eventually determine attainment status. Region-specific $PM_{2.5}$ ambient air quality attainment plans, if needed, are due to the U.S. EPA by 2005. The SCAQMD would be responsible for developing an air quality management plan for $PM_{2.5}$, if the air basin is eventually designated as a nonattainment area. (Ex. 67, p. 5.1-11.)

The federal Clean Air Act[11] requires new major stationary sources of air pollution to comply with federal requirements in order to obtain authority to construct permits. The U.S. Environmental Protection Agency (USEPA), which administers the Clean Air Act, has designated all areas of the United States as attainment (air quality better than the NAAQS) or nonattainment (worse than the NAAQS) for criteria air pollutants. (Ex. 67, p. 5.1-1 et seq.) There are two major components of air pollution law: New Source Review (NSR) for evaluating pollutants that violate federal standards and Prevention of Significant Deterioration (PSD) to evaluate those pollutants that do not violate federal standards. The USEPA withdrew its delegation of the PSD program on March 3, 2003 because of revised federal PSD requirements promulgated December 31, 2002 (67 FR 80186). Until the SCAQMD can demonstrate that its rules conform with the new federal requirements, the USEPA will administer PSD. *(Ibid.)*

Both USEPA and the California Air Resources Board (CARB) have established allowable maximum ambient concentrations for the criteria pollutants identified above. The California standards (CAAQS) are typically more stringent than federal standards. Federal and state ambient air quality standards are shown in **Air Quality Table 1**.

Air Quality Table 1
Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Standard	California Standard
Ozone (O_3)	1 Hour	0.12 ppm (235 µg/m^3)	0.09 ppm (180 µg/m^3)
	8 Hour	0.08 ppm (160 µg/m^3)	—
Respirable Particulate Matter (PM_{10})	Annual Geometric Mean	—	30 µg/m^3
	24 Hour	150 µg/m^3	50 µg/m^3
	Annual Arithmetic Mean	50 µg/m^3	— *(*20 µg/m^3)*
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	65 µg/m^3	—
	Annual Arithmetic Mean	15 µg/m^3	— *(*12 µg/m^3)*
Nitrogen Dioxide (NO_2)	Annual Average	0.053 ppm (100 µg/m^3)	—
	1 Hour	—	0.25 ppm (470 µg/m^3)

[11] Title 42, United States Code, section 7401 et seq.

Carbon Monoxide (CO)	8 Hour	9 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)
	1 Hour	35 ppm (40 mg/m^3)	20 ppm (23 mg/m^3)
Sulfur Dioxide (SO_2)	Annual Average	0.03 ppm (80 µg/m^3)	—
	24 Hour	0.14 ppm (365 µg/m^3)	0.04 ppm (105 µg/m^3)
	3 Hour	0.5 ppm (1300 µg/m^3)	—
	1 Hour	—	0.25 ppm (655 µg/m^3)
Sulfates (SO_4^{2-})	24 Hour	—	25 µg/m^3
Lead	30 Day Average	—	1.5 µg/m^3
	Calendar Quarter	1.5 µg/m^3	—
Hydrogen Sulfide(H_2S)	1 Hour	—	0.03 ppm (42 µg/m^3)
Vinyl Chloride (chloroethene)	24 Hour	—	0.010 ppm (26 µg/m^3)
Visibility Reducing Particulates	1 Observation	—	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.

Source: Ex. 67, p. 5.1-9.

SUMMARY OF THE EVIDENCE

The project site is located in the South Coast Air Quality Management District (SCAQMD or Air District). Air quality in the district is in attainment with federal and state standards for SO_2 and NO_2, and nonattainment for ozone, CO, and PM_{10}. (Ex. 67, p. 4.1-8.) The Air District's attainment status for each criteria pollutant is shown below in **Air Quality Table 2**.

AIR QUALITY Table 2
Federal and State Attainment Status for Riverside County, South Coast Air Basin

Pollutants	Federal Classification	State Classification
Ozone	Extreme Nonattainment	Extreme Nonattainment
PM_{10}	Serious Nonattainment	Nonattainment
NO_2	Unclassified/Attainment	Attainment
CO	Nonattainment*	Attainment
SO_2	Attainment	Attainment

*Note: Because of CO violations in Los Angeles County, portions of the South Coast Air Basin are designated nonattainment. The federal classification for CO nonattainment applies to the entire basin; state-level nonattainment for CO applies to only Los Angeles County.
Source: Ex. 67, p. 5.1-10.

1. SCAQMD'S Final Determination of Compliance

On June 21, 2002, SCAQMD released its Preliminary Determination of Compliance (PDOC) for public comment. The Final Determination of Compliance (FDOC) was issued on February 28, 2003 and an Addendum to the FDOC was issued on April 25, 2003.[12] The FDOC states:

> The final permit to construct is contingent on the CEC approval of the project. In addition, the applicant will be required to obtain emission reduction credits for CO, PM10, VOC, and SOx before the final permit to construct can be issued. Prior to operation of the proposed project, the applicant will be required to obtain sufficient NOx RECLAIM Trading Credits to offset the facility emissions for the first year of operation.[13] (Ex. 48.)

Pursuant to the Commission's regulations, the conditions contained in the FDOC are incorporated into this Decision. (Cal. Code of Regs., tit. 20, §§ 1744.5, 1752.3.)

2. California Environmental Quality Act (CEQA) Requirements

In addition to reviewing Air District requirements, the Commission also evaluates potential air quality impacts according to CEQA requirements. CEQA Guidelines provide a set of significance criteria to determine whether a project will: (1) conflict with or obstruct implementation of the applicable air quality plan; (2) violate any air quality standard or contribute substantially to an existing or projected air quality violation; (3) result in a cumulatively considerable net

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[12] The FDOC is issued as part of the certification process. The FDOC evaluates whether and under what conditions the IEEC will comply with the District's rules and regulations and serves as the basis for the PSD permit for the project. The Permit to Construct is issued after the Commission Decision becomes final and certain offsets are obtained. (Ex. 48.)

[13] Title V of the Clean Air Act requires the states to implement an operating permit program to ensure that large sources comply with federal regulations. The USEPA has the authority to implement the federal PSD, and has delegated to SCAQMD the authority to implement the nonattainment NSR, and Title V programs. SCAQMD adopted regulations, approved by USEPA, to implement these programs. IEEC is subject to SCAQMD rules and regulations, in particular Regulation XIII (NSR), which defines requirements for Best Available Control Technology (BACT), offsets, and emission calculation procedures.

increase of any criteria pollutant for which the region is nonattainment for state or federal standards; (4) expose sensitive receptors to substantial pollutant concentrations; and (5) create objectionable odors affecting a substantial number of people. (Cal. Code Regs., tit. 14, § 15000 et seq., Appendix G.)

3. Ambient Air Quality

No single station in the area measures all of the pollutants. Thus, Applicant used data from the nearest four air monitoring station to characterize ambient air quality near the site. (Ex. 1, p. 5.2-2; Ex. 67, p. 5.1-10.) Ambient concentrations of ozone and PM_{10} were monitored at the Perris monitoring station, NO_2 was monitored at the Lake Elsinore monitoring station, SO_2 was monitored at the Riverside Rubidoux Street monitoring station, and CO and $PM_{2.5}$ were monitored at the Riverside Magnolia monitoring station. These stations are each located in areas that are similar to the project site in terms of terrain and level of development. For the analysis, the maximum criteria pollutant concentration from the five most recent complete years of reported data (1997-2001) was used for each limit as the background value. (*Ibid.*)

Ozone Violations. Ozone is formed as the result of complex reactions between reactive organic gases and oxides of nitrogen in the presence of sunlight. Peak ozone levels are reached during the summer months. From 1991 to the present, monitoring data show that maximum hourly ozone concentrations have decreased significantly to levels close to or below the federal standard. However, ozone levels remain higher than the state standard. (Ex. 2, p. 5.1-4.)

Carbon Monoxide. Carbon monoxide (CO) is a product of incomplete combustion, principally from mobile sources. It is considered a local pollutant since it is found in high concentrations near the source of emission, i.e., cars and trucks. Peak CO levels are usually reached during the winter months. There

have been no violations of state or federal CO standards measured in Riverside since 1991. (*Ibid*.)

Nitrogen Dioxide (NO_2). Nitrogen Dioxide is formed primarily in the air from reactions between nitric oxides and oxygen or ozone. Nitric oxide is formed during high temperature combustion when nitrogen and oxygen in the air combine. There have been no violations of state or federal NO_2 standards measured at Lake Elsinore since monitoring at that station began in 1994. (Ex. 2, p. 5.1-5.)

Sulfur Dioxide (SO_2). Sulfur dioxide is emitted by combustion of sulfur-containing fuel. Since natural gas contains little sulfur, natural gas combustion emits very low amounts of SO_2. The Air District is designated attainment for state and federal standards for SO_2. (Ex. 2, p. 5.1-5.)

Particulate Matter (PM_{10}). PM_{10} can be emitted directly or formed many miles downwind from emission sources when various precursor pollutants interact in the atmosphere.[14] Under certain meteorological conditions, gaseous emissions of NO_x, SO_x and VOC from turbines and ammonia from NO_x control equipment can result in particulate matter in the form of nitrates (NO_3), sulfates (SO_4), and organic particles. These pollutants are known as secondary particulates because they are not directly emitted but formed through complex chemical reactions in the atmosphere. (Ex. 67, p. 5.1-18.)

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[14] PM nitrate (mainly ammonium nitrate) is formed in the atmosphere from the reaction of nitric acid and ammonia. Nitric acid originates from NOx emissions from combustion sources. The nitrate-ion concentrations during the wintertime are a significant portion of the total PM_{10}, and a greater contributor to $PM_{2.5}$. High concentrations of $PM_{2.5}$ occur year-round in the South Coast Air Basin, and concentrations in the Riverside and Inland Empire areas are the highest monitored of any location in the basin. Annual average $PM_{2.5}$ concentrations in Riverside for 2000-2002 range from 25 to 28 $\mu g/m^3$, well above the federal standard of 15 $\mu g/m^3$ and the state standard of 12 $\mu g/m^{3.}$ (Ex. 67, p. 5.1-12.)

New, more-stringent state-level standards for PM_{10} and $PM_{2.5}$ became effective on July 5, 2003. Applicant testified to a downward trend of PM_{10} and $PM_{2.5}$ in the area. (Ex. 2, pp. 5.1-5 to 5.1-6.) Staff testified that although annual average concentrations have been improving, they remain persistently above the state standards, especially when compared with the new state standard (20 $\mu g/m^3$ annual average PM_{10}). According to Staff, average PM_{10} concentrations have been more than double the new state standard since 1998, and concentrations of $PM_{2.5}$ also persistently exceed the new state standard (12 $\mu g/m^3$ annual average $PM_{2.5}$). (Ex. 68, p. 1.)

4. Baseline Ambient Conditions

Staff used the background ambient air concentrations shown below in **Air Quality Table 3** for modeling and evaluating the IEEC's potential air quality impacts. These concentrations reflect the measurements from the nearest station and highest of the three most-recent years of data. With exceptions for NO_2 (1-hour) and SO_2 (1-hour and 24-hour) where Staff discovered higher concentrations, Applicant's analysis also uses these background concentrations. (Ex.1, Table 5.2-1, p. 5.2-3; Ex. 67 p. 5.1-13.).

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Air Quality Table 3
Staff Recommended Background Concentrations
for IEEC Project Area

Pollutant	Averaging Time	Staff-Recommended Background (ppm)	Staff-Recommended Background ($\mu g/m^3$)	Limiting Standard (ppm)	Type of Standard
Ozone	1 hour	0.164	---	0.09	CAAQS
	8 hour	0.135	---	0.08	NAAQS
PM_{10}	24 hour	---	139	50 $\mu g/m^3$	CAAQS
	Annual Geometric Mean	---	44	30 $\mu g/m^3$	CAAQS
	Annual Arithmetic Mean	---	50	50 $\mu g/m^3$	NAAQS
NO_2	1 hour (1)	0.114	214	0.25	CAAQS
	Annual	0.0192	36	0.053	NAAQS
CO	1 hour	7.4	12,650	20	CAAQS
	8 hour	4.48	6,302	9	NAAQS
SO_2	1 hour (1)	0.11	288	0.25	CAAQS
	3 hour	---	---	0.5	NAAQS
	24 hour (1)	0.038	99	0.04	CAAQS
	Annual	0.002	5	0.03	NAAQS

Notes:
1. Staff-Recommended Background data matches that presented in AFC (Ex. 1) p. 5.2-3, except for NO_2 (1-hr) and SO_2 (1-hr, 24-hr) where staff identified higher background conditions than the applicant.

Sources: CARB Air Quality Data CD, 2000, and CARB web site, http://www.arb.ca.gov/adam/. Accessed March 2003.
Source: Ex. 67. p. 5.1-13.

5. Potential Impacts

Methodology. Applicant evaluated air quality impacts using USEPA-approved computer models that use worst-case emission rates, exhaust stack parameters, and local meteorology to simulate the dispersion of emissions and to determine the maximum ground level impacts. The analysis was based on one year of Air District-approved weather data collected at the Riverside monitoring station. (Ex. 1, § 5.2.1.6.) In response to Intervenor Romoland School District's concerns about localized air impacts, five years of alternative weather data from March Air Force Base was collected and analyzed by a third-party vendor without the oversight of SCAQMD. (Ex. 67, pp. 5.1-20 to 5.1-21.)

Construction

The primary emission sources during construction are emissions from vehicle and equipment exhaust, as well as fugitive dust from disturbed areas at the site. (Ex. 1, p. 5.2-27.) Construction is expected to last about 22 months and will include construction of the power plant, two construction laydown areas totaling 22 acres, a 4.7-mile wastewater pipeline, a 0.9-mile transmission line interconnect and relocation of existing line, a 0.9-mile natural gas supply pipeline, and the Menifee Road gas compressor station. (Ex. 2, p. 5.1-6; Ex. 67, pp. 5.1-13 to 5.1-14.)

To determine the worst case daily construction impacts, the modeling analysis was presented for both the power plant site and the compressor station and included PM_{10}, NOx, CO, and SO_2 from fugitive dust and equipment exhaust emissions. (Ex. 67, p. 5.1-21.) **Air Quality Tables 4 and 5**, replicated below from Staff's testimony, show the IEEC construction impacts at the power plant site and at the gas compressor station. **Air Quality Table 6**, also replicated from Staff's testimony, represents the analysis of air quality impacts at the power plant site using the alternative meteorological data from March AFB.

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Air Quality Table 4
IEEC Project, Construction Impacts at Power Plant Site (in µg/m^3)

Pollutant	Averaging Period	Project Impact	Back-ground	Total Impact	Limiting Standard	Type of Standard	Percent of Standard
PM_{10}	24-hour	48	**139**	**187**	50	CAAQS	**374**
	AGM	6	**44**	**50**	30	CAAQS	**167**
	AAM	6	**50**	**56**	50	NAAQS	**112**
NO_2	1-hour (a)	173	214	387	470	CAAQS	82
	Annual	16	36	52	100	NAAQS	52
CO	1-hour	198	12,650	12,848	23,000	CAAQS	56
	8-hour	108	6,302	6,410	10,000	NAAQS	64
SO_2	1-hour	0.4	288	288	650	CAAQS	44
	3-hour	---	---	N/A	1,300	NAAQS	---
	24-hour	0.1	99	99	105	CAAQS	95
	Annual	0.0	5	5	80	NAAQS	7

Source: Ex. 67, p. 5.1-22, PSA Comments (DBSR 2002m).
Notes: Based on Riverside meteorological data as required by SCAQMD. (a) NO_2 (1-hour) impacts based on applicant's ISC3-OLM analysis, which staff believes to be invalid because of using ozone data from 1999 with 1981 meteorological data. NO_2 (annual) impacts based on Ambient Ratio Method (ARM).

Air Quality Table 5
IEEC Project, Construction Impacts at Compressor Station Site (in µg/m^3)

Pollutant	Averaging Period	Project Impact	Back-ground	Total Impact	Limiting Standard	Type of Standard	Percent of Standard
PM_{10}	24-hour	**92**	**139**	**231**	50	CAAQS	**462**
	AGM	10	**44**	**54**	30	CAAQS	**180**
	AAM	10	**50**	**60**	50	NAAQS	**120**
NO_2	1-hour (a)	210	214	424	470	CAAQS	90
	Annual	11	36	47	100	NAAQS	47
CO	1-hour	296	12,650	12,946	23,000	CAAQS	56
	8-hour	118	6,302	6,420	10,000	NAAQS	64
SO_2	1-hour	26	288	314	650	CAAQS	48
	3-hour	---	---	---	1,300	NAAQS	---
	24-hour	5	99	104	105	CAAQS	99
	Annual	0.5	5	6	80	NAAQS	7

Source: Ex. 67, 5.1-23. Response to DR #31 (IEEC 2002f).
Notes: Based on Riverside meteorological data as required by SCAQMD.
(a) NO_2 (1-hour) impacts based on applicant's ISC3-OLM analysis using ozone data from 1981 with 1981 meteorological data. NO_2 (annual) impacts based on Ambient Ratio Method (ARM).

Air Quality Table 6
IEEC Project, Construction Impacts at Power Plant Site
using Staff's Alternative Meteorological Data (in µg/m^3)

Pollutant	Averaging Period	Staff/ March AFB Impact	Back-ground	Staff Total Impact	Limiting Standard	Type of Standard	Staff Percent of Standard
PM_{10}	24-hour	42	**139**	**181**	50	CAAQS	**361**
	AGM	4	**44**	**48**	30	CAAQS	**158**
	AAM	4	**50**	**54**	50	NAAQS	**107**
NO_2	1-hour (a)	312	128 (a)	439	470	CAAQS	93
	Annual	10	36	46	100	NAAQS	46

Source: Ex, 67, p. 5.1-29.
Notes: Alternative to applicant's results using Riverside meteorological data as required by SCAQMD with results obtained using five years (1997-2001) of alternative meteorological data from March AFB.
(a) Hourly NO_2 maximum concentration calculated by staff using OLM and worst-case background NO_2 data from Lake Elsinore monitoring station for the actual month of the modeled maximum. No violations were found to occur for the five-year period.

The evidence of record demonstrates that construction of the IEEC will contribute to existing violations of the PM_{10} standards in the vicinity of project construction work. The most severe PM_{10} impacts will occur at the fence line, early in the construction phases, during site preparation. For later phases of construction, fewer activities will have the potential to generate dust. (Ex. 68, p. 2.) The nearest residential receptors are approximately 600 feet from the site. At any residence, the maximum modeled PM_{10} concentration at the maximum exposed sensitive receptor will be significantly lower than the fence line concentrations. (Ex. 67, p. 5.1-23.)

Staff proposed Condition **AQ-SC5** which would require the project owner to implement an Ambient Air Monitoring Program to measure PM_{10} during construction activities. A similar monitoring program was required in the Los Esteros project (01-AFC-12) as a demonstration. (RT 7/30, p. 141.) Applicant testified that ambient monitoring for PM_{10} is not needed for the IEEC because fugitive dust impacts are "extremely conservatively overstated", **AQ-SC4** (which controls visible dust) would control invisible dust as well, and that SCAQMD Rule 403 is sufficient to address dust form this project. (RT 7/30, 139-141.) Applicant

further testified that the Los Esteros demonstration project was a "failure." (RT 7/30, p. 141.) Although Staff did not agree with Applicant that the demonstration project was a failure, Staff did not offer substantial evidence to rebut Applicant's testimony or to affirmatively establish the need for, or feasibility of, ambient air monitoring. Therefore, we conclude that implementing aggressive dust control strategies required by Conditions of Certification **AQ-SC1** through **AQ-SC4** will ensure the greatest feasible measure of dust control, and that the weight of the evidence does not persuade us that **AQ-SC5** is necessary.

During and following the evidentiary hearings, Staff and Applicant agreed to changes in two other Air Quality Conditions of Certification, **AQ-SC3(o)** regarding diesel mitigation and **AQ-SC6** regarding hours of construction. Changes in those conditions have been incorporated to reflect these agreements and to make these conditions internally consistent.

Romoland School is located about 0.34 miles north north-west of the site. The maximum modeled 24-hour PM_{10} concentration caused by construction activities will be about 8 $\mu g/m^3$, or less than ten percent of the existing background conditions. Staff testified that concentrations in these ranges will by themselves not be significant. However, the project construction activities at both the power plant site and the gas compressor station site will further exacerbate existing violations of the state 24-hour PM_{10} standard, and thus constitute a significant air quality impact for PM_{10}. (Ex. 67, p. 5.1-23.) The alternative data from March AFB generally shows that short-term PM_{10} impacts would be similar to those anticipated by Applicant, except that short-term impacts at Romoland School would be higher, but still not by themselves a significant impact. (Ex. 67, pp. 5.1-28 to 5.1-29.)

Additionally, the evidence of record indicates that NOx and VOC emissions from construction equipment will contribute to existing violations of the ozone standards and thus constitute a significant air quality impact for ozone and ozone

precursors. The project's construction activities will not create a new violation of CO air quality standards; therefore, the CO impacts are not considered significant. (Ex. 67, p. 5.1-23.)

This analysis also shows that construction may contribute to high concentrations of short-term NO_2 and SO_2. Staff contended that Applicant's modeled NO_2 concentration was invalid because Applicant used ozone data from 1999 in conjunction with meteorological data from 1981. Staff testified that ambient ozone concentrations are dramatically affected by meteorological conditions (temperature, stability, and sunlight). Therefore, the meteorology and ambient ozone data used in the analysis should have been taken from the same year. Further independent analysis by Staff was prepared using the alternative meteorological data (1997-2001) with concurrent ozone data to refine Applicant's analysis. The further analysis showed that no violation of the NO_2 standards will occur. (Ex. 67, p. 5.1-28; *See* Air Quality Table 13 above.)

Compared to the high background concentrations at Riverside, the evidence of record shows that the impacts of construction related SO_2 near the project site are small (less than five percent of the state standard); however, mitigation is necessary to assure the impact is insignificant. (Ex. 67, p. 5.1-24.) Conditions **AQ-SC1** through **AQ-SC6** ensure that all construction impacts will be mitigated to below levels of significance.

<u>Operation</u>

Project emissions of criteria pollutants during operation will result from the operation of two stationary, natural gas-fired combined cycle gas turbines, fired heat recovery steam generators, cooling tower, gas-fired emergency generator, and emergency diesel fire pump. (Ex. 2, p. 5.1-7.)

The IEEC will have an anticipated annual availability of 92 to 98 percent. (Ex. 1, §3.4.2, p. 3-10.) Applicant's emission calculations conservatively assume 100

percent operation of the CTGs and operation of each duct burner 5,100 hours per year. (Ex. 1, p. 5.2-30.) The exclusive use of pipeline-quality natural gas, a relatively clean-burning fuel, will limit the formation of VOC, PM_{10}, and SO_2 emissions. The record indicates that the natural gas supply will have less than 0.25 grains of sulfur per 100 scf. (Ex. 1, p. 3-19.)

Air emissions will be generated from operating the major project components. **AIR QUALITY Tables 7 and 8** summarize the maximum (reasonable worst-case) estimated levels of the different criteria pollutants associated with project operation.

Air Quality Table 7
IEEC Project, Applicant's Proposed Hourly Emissions (pounds per hour, lb/hr)

Operational Profile		NO_x	CO	PM_{10}	SO_x	VOC
CTG Cold Startup (240 minute duration)	Lb/hr/CT	80.0	838.0	9.0	1.8	16.0
CTG Hot Startup (60 minute duration)	Lb/hr/CT	80.0	838.0	9.0	1.8	16.0
CTG Shutdown (60 minute duration)	Lb/hr/CT	80.0	838.0	9.0	1.8	16.0
CTG Average Annually (w/ duct burning)	Lb/hr/CT	18.2	10.5	10.5	1.8	6.3
CTG Average Annually (w/o duct burning)	Lb/hr/CT	12.9	7.6	9.0	1.3	2.4
CTG Hourly Maximum (w/ duct burning)	Lb/hr/CT	22.7	33.2	10.5	1.8	6.3
CTG Hourly Maximum (w/o duct burning)	Lb/hr/CT	16.1	23.5	9	1.3	2.4
Each Cell of Cooling Tower (14 cells)		--	--	0.24	--	--
Auxiliary Boiler		1.4	2.8	2.7	0.1	0.6
Diesel-Powered Fire Pump Engine		4.4	2.6	0.2	0.1	0.7
Natural Gas-Fired Standby Generator Engine		4.9	6.5	0.5	0.0	4.9
Reasonable Worst-Case Hour: 1 CTG (Cold Startup) + 1 CTG (Maximum) + Auxiliary Boiler + Standby Generator Test		109.0	880.5	26.0	3.7	27.8

Sources: Ex. 67, p. 5.1-18, Ex.1, Table 5.2-18, p. 5.2-29, Appendix K-3, Table K.3-1,

AIR QUALITY Table 8 summarizes the maximum (reasonable worst case) daily and annual estimated criteria pollutants emissions proposed by Applicant. Annual emissions are estimated based on each combustion turbine operating at 100% load, in all anticipated ambient conditions, including 150 hot and cold

startups during the year. Daily and annual emissions for the auxiliary boiler, fire water pump engine, and standby generator engine assume that these units will not be operated full time and that their typical daily and annual schedules of operation will follow the assumptions listed above.

Air Quality Table 8
IEEC Project, Estimated Maximum Emissions during Operation

Pollutant	NO_x	CO	PM_{10}	SO_x	VOC
Maximum Daily Emissions (lb/day)	1,511	7,984	581	82	360
Maximum Annual Emissions (ton/year)	169.4	418.2	105.1	14.0	48.1

Source: Ex. 67, p. 5.1-19; Ex.1, Table 5.2-21, p. 5.2-31.

Notes:

1. Daily emissions based on each of the two combustion turbines operating at 100% load with duct burners for 16 hours, at 100% load without duct burners for 4 hours, and with 4 hours of a cold startup and hot startup, with full time operation of the cooling tower, limited operation of the auxiliary boiler, and standby generator testing.
2. Annual emissions based on each of the two combustion turbines operating at 100% load with duct burners for 5,100 hours annually, at 100% load without duct burners for 3,260 hours annually, and with roughly 50 cold starts (150 hours), 100 hot starts (100 hours), and associated shutdowns (150 hours), with full time operation of the cooling tower, limited operation of the auxiliary boiler, and standby generator and fire pump engine testing.

Staff analyzed both Applicant's modeling and modeling using the alternative data from March AFB. The maximum impacts identified by Applicant's modeling would occur in the hills near Romoland, mainly to the south and east, where terrain exists above the turbine/HRSG stack top.[15] Maximum annual NO_2 impacts and maximum PM_{10} impacts from the turbines, both 24-hour and annual average, would occur in the hills roughly 1.5 miles south and slightly east of the project and in the foothills roughly 4 miles east and slightly south of the project. (Ex. 67, p. 5.1-25.) Direct impacts to NO_2, CO, and SO_2 will not be significant because the project will not cause or contribute to a violation of these standards. Nevertheless, Staff concludes impacts caused by PM_{10} emissions will be significant because they will contribute to existing violations of the standards. (RT 7/30, p. 135.)

[15] No substantive sources of emissions will be associated with operation of the Menifee Road gas compressor station; therefore, no analysis of ambient air quality impacts was necessary. (*Ibid.*)

The evidence of record establishes that in the vicinity of the Romoland Elementary School, the maximum modeled 24-hour PM_{10} concentration caused by project operation will be less than 0.5 $\mu g/m^3$, which is less than one-half of one percent of the existing background conditions. (*Ibid*.)

Impacts to $PM_{2.5}$ concentrations are not quantified because established methodologies do not exist for quantifying $PM_{2.5}$ emissions from all of the proposed sources or for characterizing the complex interaction of $PM_{2.5}$ precursors in the ambient air. However, because PM_{10} emissions from the combustion turbines will primarily qualify as emissions of $PM_{2.5}$, the project will be expected to contribute to the elevated levels of ambient $PM_{2.5}$ that exist in the background conditions. To minimize project contributions to existing $PM_{2.5}$ violations, mitigation for this pollutant could be provided by mitigating combustion-related PM_{10}, which includes $PM_{2.5}$, and mitigating reactive precursors that can lead to $PM_{2.5}$. (Ex. 67, pp. 5.1-25 to 5.1-26.)

The alternative data from March AFB established that short-term PM_{10} impacts would be slightly higher (less than ten percent) than those anticipated by Applicant, but the differences did not represent a notable change in anticipated impacts. Staff used a refined OLM analysis for NO_2 impacts to demonstrate that no violation of the NO_2 standards would occur. Furthermore, the analysis showed that in the vicinity of the Romoland Elementary School, the maximum modeled PM_{10} concentrations caused by project operation would not change substantially with the March AFB data when compared to Applicant's analysis. An independent staff assessment of project impacts during commissioning using the worst of five years (1997-2001) of alternative meteorological data from March AFB revealed that maximum NO_2 and CO impacts during commissioning would not exceed those identified by Applicant's analysis, and were less than those previously characterized by Applicant. Therefore, no further analysis was necessary. (Ex. 67, 5.1-30.)

Due to the combustion turbines used in this project and the need to control NO_x emissions, ammonia will be injected into the flue gas stream as part of the SCR system. A portion of the ammonia passes through the SCR and is emitted unaltered, out the stacks. These ammonia emissions are known as "ammonia slip". Condition of Certification **AQ-25** limits IEEC to an ammonia slip no greater than 5 ppm, which currently represents the lowest ammonia slip level being imposed throughout California. (Ex. 68, p. 24.)

Staff noted the potential for higher short-term pollutant concentrations during “fumigation” conditions, which are caused by the rapid mixing of the plume to ground level. Applicant analyzed the air quality impacts for plant emissions occurring under fumigation conditions and concluded that, during either startup or steady operation, the short-term project impacts would not exceed the impacts for routine operation. (Ex. 67, p. 5.1-26.)

Initial “commissioning” operation of the power plant starts with the first firing of fuel in the gas turbines and HRSGs to test equipment and emission control systems. For most power plants, operating emission limits usually do not apply during the initial commissioning procedures. Normally during the initial testing during commissioning, the post-combustion control systems (i.e., SCR system and oxidation catalyst) may not be fully installed or operational. (Ex. 67, p. 5.1-19.) Conditions **AQ-SC13**, **AQ-13**, **AQ-14**, **AQ-17**, and **AQ-18** address the commissioning period, setting emission limits, limiting the commissioning period to 636 hours per turbine from initial startup, and requiring the project owner to calculate emission for CO during the commissioning period. (Ex. 68, p. 8 et seq.) These conditions will adequately limit emissions during the commissioning period.

6. Mitigation

Emission Controls

Each CTG will employ inlet air foggers for increased efficiency on hot days and dry low-NOx combustors. Within the HRSGs, post-combustion emission control will be provided by an SCR system in conjunction with an oxidation catalyst. With these technologies, Applicant will reduce stack exhaust concentrations of NOx to 2.0 ppmvd (@ 15% O_2) on a 1-hour basis. CO concentrations will be limited to 3.0 ppmvd without duct burning and 4.0 ppmvd with duct burning on a 1-hour basis. (Ex. 52, p. 7; Ex. 67, p. 5.1-16.) Continuous emission monitors (CEMs) will be installed on the exhaust stack for NOx, CO, and oxygen to assure adherence with the proposed CTG emission limits. The CEM system will generate reports of emissions data in accordance with permit requirements and will send alarm signals to the plant's control room when the level of emissions approaches or exceeds pre-selected limits. (Ex.1, § 3.4.12.4, p. 3-38.)

The counter-flow mechanical draft cooling tower will be equipped with a high efficiency drift eliminator to control PM_{10} emissions. The drift eliminator will control the drift fraction to 0.0005% of the circulating water flow. (Ex. 67, p. 5.1-16.)

Emission Offsets.

SCAQMD Regulation XIII on New Source Review (NSR) sets forth the pre-construction review requirements for new, modified, or relocated facilities to ensure that these facilities do not interfere with progress in attainment of the national ambient air quality standards and that future economic growth in the Air District is not unnecessarily restricted. This regulation limits the emissions of non-attainment contaminants and their precursors as well as ozone depleting compounds and ammonia, by requiring the use of Best Available Control Technologies (BACT). (Ex. 67, 5.1-6.)

BACT levels for the IEEC were determined by the Air District to be:

- NOx: 2.0 ppmv, 1–hour rolling average, 15% O_2, dry
- CO: 3 ppmv without duct firing, 4 ppmv with duct firing, 1–hour rolling average, 15% O_2, dry
- ROG 2 ppmv, 1–hour rolling average, 15% O_2
- Ammonia slip: 5 ppmv, 1–hour rolling average, 15% O_2, dry. (Ex. 52, p. 14.)

Applicant testified that it may obtain SOx and PM_{10} offsets through the Priority Reserve[16], and will obtain CO and ROG offsets using regular ERCs. Applicant proposed a road paving strategy to generate PM_{10} ERCs which, has not yet been approved by the Air District. The Air District assumed for its analysis that offsets would be purchased through the Priority Reserve. Since approval of Applicant's proposal is speculative, we are requiring Applicant to offset PM_{10} and SOx through the Priority Reserve, as required by Condition **AQ-SC9**. (Ex. 2, p. 5.1-14; Ex. 48, p. 33; Ex. 52, p. 15.)

NOx emissions from the IEEC are regulated by Regulation XX on the Regional Clean Air Incentives Market (RECLAIM).[17] Applicant testified that it will be purchasing RECLAIM Trading Credits (RTCs) to offset its NOx emissions. (Ex. 2, p. 5.1-8.) Applicant has obtained 38,234 lb/yr of RTCs (less than 10 percent of the total RTCs required for the first year of operation) and will be required by the District to obtain the sufficient RTCs to offset the project's NOx emissions prior to operation. For the first year of operation, a total of 490,593 lb/yr of NOx offsets will be required. (Ex. 46, cover letter; Ex. 67, p. 5.1-32.)

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[16] The Priority Reserve requirements include depleting existing ERCs for these pollutants, paying non-refundable funds to the District, and bringing the facility to rated capacity within three years of the Permit to Construct issuance date or Energy Commission certification, whichever is later. (Ex. 67, p. 5.2-41.)

[17] The Regional Clean Air Incentives Market (RECLAIM) program is designed to allow facilities flexibility in achieving emission reduction requirements for NO_x and SO_x through reasonable mitigation measures or the purchase of excess emission reductions. The RECLAIM program supercedes other district rules and has its own rules for permitting, reporting, and monitoring, as well as its own banking rule. IEEC will be a NO_x RECLAIM project and, therefore, subject to the rules of RECLAIM for NO_x emissions. (Ex. 67, 5.1-31.)

In its FSA, Staff concluded that it could not recommend certification of the project because Applicant failed to identify over 90 percent of the minimum first year NOx RTC requirement as required by the Warren-Alquist Act [Public Resources Code 25523(d)(2).] (Ex. 67, pp. 5.1-37, 5.1-43; Ex. 68, pp. 3-5.)

Public Resources Code section 25523(d)(2) states in pertinent part:

> 2) The commission may not find that the proposed facility conforms with applicable air quality standards…unless the applicable air pollution control district or air quality management district certifies, prior to the licensing of the project by the commission, that complete emissions offsets for the proposed facility have been identified and will be obtained by the applicant within the time required by the district's rules…

The statute thus distinguishes between "identifying" and "obtaining" offsets. In its Opening Brief, Applicant states: "Importantly, Staff and Applicant agree that the obligation to 'identify' proposed offset sources and the obligation to 'obtain' such offsets are legally distinct concepts in the statute." (Applicant's Opening Brief, p. 23, citing 7/30 RT p. 275.)

During the evidentiary hearing on Air Quality, Applicant testified it did not dispute that RTCs need to be "obtained" prior to operation. (7/30 RT p. 154.) In its testimony, Applicant explained the difference between RTCs and emission reduction credits (ERCs), and that NOx RTCs are unique to the south coast air basin. (Ex. 2, pp. 5.1-12 to 5.1-13.) Applicant further testified that it did not dispute Staff's proposed Condition of Certification (**AQ-SC9**) addressing obtaining RTCs. (7/30 RT p. 154.) We do not, therefore, address that issue here.

However, Applicant, disagrees with Staff's interpretation of the statute in regards to how the offset package must be "identified." Staff maintains that in order to meet the criterion, Applicant must identify the remaining 90 percent of RTCs

required for the first year of operation prior to the licensing of the project. In Staff's opinion, identification could be achieved through a legally binding agreement, such as the purchase of an option on RTCs. (Ex. 67, p. 5.1-37, Staff's Reply Brief, pp. 1-2.)

Applicant maintains that it "has done everything that can be done to 'identify' its RTCs short of actually obtaining them…". (Applicant's Opening Brief, p. 25, emphasis in the original.) Applicant argues that to require a purchase option agreement is tantamount to having Applicant actually obtain such credits, which is not statutorily required. (Applicant's Opening Brief, pp. 24-25.) Staff disagreed, stating that an option gives Applicant "the legally enforceable right to purchase the RTC at a later time if it chooses to do so" and that it is not "equivalent of a purchase of an RTC." (Staff's Reply Brief, p. 1.)

PRC section 25523(d)(2) requires that the Air District certify the Applicant has identified its complete air emissions offsets. In a Supplemental Briefing Order, the Committee requested that Applicant provide a letter to the Committee from the Air District, in which the Air District certifies that Applicant has identified its complete air emissions offset package (including RTCs).

The Air District sent two letters in response to the Order, dated October 22, 2003, and October 29, 2003, respectively. In each letter, the District confirmed that the project's offset package is complete in accordance with the *Air District's* rules and regulations, but did not address whether all emission offsets were identified consistent with the provisions of PRC 25523(d)(2).

In its letter of October 29, 2003, the Air District wrote:

> This is to certify that, based on the information provided by IEEC in their application to the AQMD (and related submittals), the IEEC has identified and/or obtained the emission offsets as required, and

> within the timeframes required, by AQMD Rules and Regulations for the issuance of Permits to Construct. Please note that pursuant to AQMD Rule 2005(b)(2), RTCs are required to be obtained prior to start of operation of the project.

The Air District Rules and Regulations do not require the identification of RTCs until commencement of operation. The letter referred to above is limited to certifying that the Applicant has identified the emission offsets required for the AQMD to issue its Permit to Construct. According to the FDOC, only emission reduction credits for CO, PM_{10}, VOC, and SOx are required to be identified and obtained before the Permit to Construct can be issued. NOx RTCs are not included in the District's certification. (Ex. 48.)

Attached to its testimony, Applicant provided an opinion letter from Cantor Fitzgerald Brokerage, LP listing ten currently available sellers of NOx RTCs. These RTCs would be sufficient to meet the minimum first year of NOx offsets required for the project by the Air District. (Ex. 2, pp. 5.1-53 to 5.1-54.) Applicant stated that it has no objection to including these ten sellers under Condition of Certification **AQ-SC9**. (Applicant's Opening Brief, p. 28.) Applicant has further agreed to include in the condition the requirement that RTCs be obtained prior to construction. (*Id.*, p. 29.)

We believe that listing the specific RTCs from the Cantor Fitzgerald letter provides the specificity needed in identifying RTCs as required by the SCAQMD. This specificity is needed to put the Applicant in compliance with the offset identification requirement of PRC 25523(d)(2). We limit our reliance on the Cantor Fitzgerald letter to the specific facts presented to us in this case. We have, therefore, modified **AQ-SC9** to include the ten listed RTC sellers and added the requirement that the RTCs required for the project be purchased prior to construction. The latter will ensure that the project will create no adverse impacts from either project phase. With these modifications to **AQ-SC9**, and

based solely on the weight of the evidence presented in this case, we conclude that the project is in compliance with all applicable LORS.

Air Quality Table 9, replicated from Staff's testimony, shows the project's offset liability, offset ratio and remaining liability. As noted above, PM_{10} and SOx are expected to be fully offset through the Priority Reserve. NOx emissions will be offset through the RECLAIM Trading Credit program.

Air Quality Table 9
IEEC Project, Offset Liability and Residual Impact

Pollutant	Offset Liability	CEQA-only Emissions	Acquired Offsets	Offset Ratio (a)	Value of Acquired Offsets	Remaining Liability
NO_x, lb/yr, 1st year	3,466,805	---	38,234	1.0	38,234	3,428,571
NO_x lb/yr, 1st year (w/ CEMs certified)	490,593	---	38,234	1.0	38,234	452,359
CO, lb/day	686	---	826	1.2	688	None
PM_{10}, lb/day	504	+79 (b)	None	1.0	None	583
SO_x, lb/day	81	---	None	1.0	None	81
VOC, lb/day	283	---	1,473	1.2	1,228	None

Source:Ex. 67, p. 5.1-35; Based on SCAQMD 2003b, with independent staff assessment.
Notes:
a. See **AIR QUALITY Table 15** for the proposed offset strategies and discount ratios.
b. PM_{10} emissions from the cooling tower have no offset liability per District rules, but will need to be mitigated to satisfy CEQA requirements.

7. Cumulative Impacts

Staff evaluated future projects that are currently under construction, or are currently under District review in its cumulative impact analysis. Projects located up to six miles from the proposed facility site were included in the analysis. The maximum modeled cumulative impacts of IEEC with the other new sources are presented below in **AIR QUALITY Table 10.** The results of the cumulative analyses show that cumulative impacts would be nearly identical to the impacts from routine operation of IEEC. Therefore, no additional mitigation, beyond that

required for solely the IEEC, will be necessary to prevent the creation of cumulative impacts. (Ex. 67, p. 5.1-38.)

Air Quality Table 10
IEEC Project, Impacts from Cumulative Sources (in µg/m^3)

Pollutant	Averaging Period	Cumulative Impact	Back-ground	Total Impact	Limiting Standard	Type of Standard	Percent of Standard
PM_{10}	24-hour	10.0	**139**	**149**	50	CAAQS	**298**
	AGM	1.5	**44**	**45**	30	CAAQS	**152**
	AAM	1.5	**50**	**51**	50	NAAQS	**103**
NO_2	1-hour	88.4	214	303	470	CAAQS	64
	Annual	1.1	36	37	100	NAAQS	37
CO	1-hour	799.9	12,650	13,450	23,000	CAAQS	58
	8-hour	419.7	6,302	6,722	10,000	NAAQS	67
SO_2	1-hour	3.1	288	291	650	CAAQS	44
	3-hour	---	---	---	1,300	NAAQS	---
	24-hour	1.2	99	101	105	CAAQS	96
	Annual	0.2	5	5	80	NAAQS	7

Source: Ex. 67, p. 5.1-38. Attachment 1 Calpine 2001e.
Notes: Based on Riverside meteorological data as required by SCAQMD.
(a) Independent staff analysis was necessary for NO_2 and CO (1-hour) to address IEEC startup.
(b) Hourly impacts do not show the effects of emergency generator testing at IEEC.

8. Environmental Justice

The evidentiary record includes a discussion of local demographics to identify potential environmental justice concerns. *See* the **Socioeconomics** section of this Decision. The highest air quality impacts during construction (mainly PM_{10} impacts) would occur close to the IEEC site and to the southeast, which is usually downwind. For operation, the PM_{10} and ozone impacts tend to occur in the more distant hills. Minority pockets or clusters located to the southeast and elsewhere in the immediate vicinity of the site could experience disproportionate air quality impacts during construction. To address this, we are requiring mitigation especially for construction impacts near the site boundary. (*See* **AQ-SC1** through **AQ-SC6**.) Since there are no significant unmitigated air quality impacts resulting from construction and operation of the IEEC, there is no evidence of *disproportionate* air quality impacts on minority/low income populations. Therefore, we find there are no environmental justice issues that would require additional analysis. (Ex. 67, p. 5.1-39.)

FINDINGS AND CONCLUSIONS

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

1. National ambient air quality standards (NAAQS) and California ambient air quality standards (CAAQS) have been established for six air contaminants identified as criteria air pollutants, including sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), lead (Pb), and particulate matter less than 10 microns in diameter (PM_{10}).
2. The Inland Empire Energy Center (IEEC) is located in the South Coast Air Quality Management District (Air District).
3. The Air District is a nonattainment area for state and federal 1-hour ozone standards, state and federal PM_{10} standards, and state and federal CO standards. The District is designated attainment for state and federal NO_2 and SO_2 standards.
4. Construction and operation of the project will result in emissions of criteria pollutants and their precursors.
5. Potential impacts from construction-related activities will be mitigated to insignificant levels with implementation of an Air Quality Construction Mitigation Plan.
6. The Air District issued a Final Determination of Compliance that finds the IEEC will comply with all applicable District rules for project operation.
7. The IEEC will employ the best available control technology (BACT) to limit pollutant emissions by installing dry low NO_x combustors, SCR technology, and an oxidation catalyst.
8. Project NO_x emissions are limited to 2.0 parts per million (ppmv) corrected at 15 percent oxygen over a one-hour average.
9. Project CO emissions are limited to 3 ppmv without duct firing and 4 ppmv with duct firing corrected at 15 percent oxygen over a three-hour average.
10. Project ROG (VOC) emissions are limited to 2 ppm corrected at 15 percent oxygen over a one-hour average.
11. Project ammonia slip emissions resulting from use of SCR are limited to 5 ppm over a one-hour average.
12. Project PM_{10} cooling tower emissions are limited to 79 lbs/day and cooling tower mist drift eliminators shall limit the drift rate to 0.0005 %.
13. To mitigate the project's contributions to violations of state and federal PM_{10} standards, the project owner will purchase SCAQMD Priority Reserve emission reduction credits (ERCs) for PM_{10} and SOx in accordance with Rule 1309.1.

14. To mitigate the project's NO_x emissions, the project owner will purchase RECLAIM Trading Credits prior to construction of the project.
15. With the modifications to **AQ-SC9**, the IEEC offset package complies with Public Resources Code, section 25523(d)(2).
16. Implementation of the Conditions of Certification, below, ensures that IEEC will not result in any direct, indirect, or cumulative significant adverse impacts to air quality.

The Commission therefore conclude the implementation of the Conditions of Certification, below, and the mitigation measures described in the evidentiary record, ensures the Inland Empire Energy Center will conform with all applicable laws, ordinances, regulations, and standards relating to air quality as set forth in the pertinent portions of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

Staff Conditions – Construction

AQ-SC1 The project owner shall fund all expenses for an on-site Air Quality Construction Mitigation Manager (AQCMM) who shall be responsible for maintaining compliance with conditions **AQ-SC2** through **AQ-SC6** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities identified in Conditions **AQ-SC1** through **AQ-SC6** to one or more air quality construction mitigation monitors. The on-site AQCMM shall have access to areas of construction of the project site and linear facilities, and shall have the authority to appeal to the CPM to have the CPM stop any or all construction activities as warranted by applicable construction mitigation conditions. The on-site AQCMM, and any air quality construction mitigation monitors responsible for compliance with the requirements of **AQ-SC4**, shall have a current certification by the California Air Resources Board for Visible Emission Evaluation prior to the commencement of ground disturbance. The AQCMM may have other responsibilities in addition to those described in this condition. The on-site AQCMM shall not be terminated without written consent of 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, current CARB Visible Emission Evaluation certificate, and contact information for the on-site AQCMM and air quality construction mitigation monitors.

AQ-SC2 The project owner shall provide a construction mitigation plan, for approval, which shows the steps that will be taken, and reporting requirements, to ensure compliance with conditions **AQ-SC3** and **AQ-SC4**.

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

AQ-SC3 The on-site AQCMM shall submit to the CPM, in the Monthly Compliance Report (MCR), a construction mitigation report that demonstrates compliance with the following mitigation measures:

a) All unpaved roads and disturbed areas in the project and linear construction sites shall be watered until sufficiently wet for every four hours of construction activities, or until sufficiently wet to comply with the dust mitigation objectives of Condition **AQ-SC4**. The frequency of watering can be reduced or eliminated during periods of precipitation.

b) No vehicle shall exceed 15 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 washed or 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 entrances to the construction site shall be graveled or treated with water or dust soil stabilization compounds.

g) Construction vehicles must enter the construction site through the treated entrance roadways.

h) Construction areas adjacent to any paved roadway shall be provided with sandbags to prevent run-off to the roadway.

i) All paved roads within the construction site shall be swept twice daily when construction activity occurs.

j) At least the first 500 feet of any public roadway exiting from the construction site shall be swept twice daily when construction activity occurs.

k) All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered, or 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 vegetation, shall be used on all construction areas that may be disturbed. Any windbreaks used shall remain in place until the soil is stabilized or permanently covered with vegetation.

n) Any construction activities that may cause fugitive dust in excess of the visible emission limits specified in Condition **AQ-SC4** shall cease when the wind exceeds 25 miles per hour unless water, chemical dust suppressant, or other measures have been applied to reduce dust to the limits set forth in **AQ-SC4**.

o) **Diesel Fired Engines**.

1. All diesel-fueled engines used in the construction of the facility shall be fueled only with ultra-low sulfur diesel, containing no more than 15-ppm sulfur.

2. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM that shows the engine meets the conditions set forth herein.

3. All large construction diesel engines, which have a rating of 100 hp or more, shall be equipped with catalyzed diesel particulate filters (soot filters), unless certified by engine manufacturers or the on-site AQCMM that the diesel engine is not available or the use of such devices is not practical for specific engine types. For purposes of this condition, a diesel engine is “unavailable” or the use of such devices is “not practical” if the AQCMM in applying recognized industry practices certifies that:

   - The device is not available. For purposes of this condition, “not available” means that a device certified by either CARB or EPA is: (i) not in existence at any location for use by the project owner at or near the time project construction commences; (ii) in existence but the construction equipment is intended to be on-site for ten (10) days or less or (iii) not available for a particular piece of equipment.

   - Despite the project owner’s best efforts, use of the device is not practical. For purposes of this condition, “not

practical" means any of the following: (i) 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; (ii) the soot filter is causing or is reasonably expected to cause significant engine damage; (iii) the soot filter is causing or is reasonably expected to cause a significant risk to workers or the public; or (iv) other good cause approved by the CPM.

The project owner shall notify the CPM within seven (7) days of determining that a soot filter is unavailable or not practical, and the reasons therefore.

Verification: In the MCR, the project owner shall provide the CPM a copy of the construction mitigation report and any diesel fuel purchase records, which demonstrate compliance with condition **AQ-SC3**.

AQ-SC4 No construction activities are allowed to cause visible dust emissions at or beyond the project site fenced property boundary or any adjacent lands owned by the applicant. No construction activities are allowed to cause visible dust plumes that exceed 20 percent opacity at any location on the construction site. No construction activities are allowed to cause any visible dust plume in excess of 200 feet beyond the centerline of the construction of linear facilities.

Verification: The on-site AQCMM shall conduct a visible emission evaluation at the construction site fence line, or 200 feet from the center of construction activities at the linear facilities, each time he/she sees excessive fugitive dust from the construction or linear facility site. The records of the visible emission evaluations shall be maintained at the construction site and shall be provided to the CPM in the MCR.

AQ-SC5: Condition Deleted.

AQ-SC6 During site mobilization, ground disturbance, and grading activities, the project owner shall limit the fugitive dust causing activities (i.e. scraping, grading, trenching, or other earth moving activities) to no more than a twelve-hour per day schedule as provided in Condition NOISE-8.

Verification: The project owner shall provide records of compliance as part of the MCR.

Staff Conditions – Operation

AQ-SC7 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 EPA, and any revised permit issued by the District or EPA, for the project.

Verification: The project owner shall submit 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 submit to the CPM and District Executive Officer Quarterly Operation Reports, no later than 30 days following the end of each calendar quarter, that include operational and emissions information as necessary to demonstrate compliance with Conditions **AQ-SC11**, **AQ-SC12**, **AQ-SC14**, **AQ-SC15**, and **AQ-1** through **AQ-54**, as applicable. The Quarterly Operation Report will specifically note or highlight incidences of noncompliance.

Verification: The project owner shall submit the Quarterly Operation Reports to the CPM and APCO no later than 30 days following the end of each calendar quarter.

AQ-SC9 The project owner shall provide emission reduction credits to offset turbine, duct burner, auxiliary boiler, and emergency equipment NOx, CO, VOC, SOx, and PM_{10} emissions in the form and amount required by the District. RECLAIM Trading Credits (RTCs) shall be provided for NOx as necessary to demonstrate compliance with **AQ-27** and **AQ-46**. Emission reduction credits (ERCs) shall be provided for CO (823 lb/day, includes offset ratio of 1.2) and VOC (340 lb/day, includes offset ratio of 1.2). Emission reduction credits for SOx (81 lb/day) and PM_{10} (504 lb/day) shall be obtained from the SCAQMD Priority Reserve.

The project owner shall surrender the ERCs for CO and VOC from among those that are listed in the table below or a modified list, as allowed by this condition. If additional ERCs are submitted, the project owner shall submit an updated table including the additional ERCs to the CPM. The project owner shall request CPM approval for any substitutions, modifications, or additions of credits listed.

Prior to commencement of construction, the project owner shall obtain sufficient RTCs to satisfy the District's requirements for the first year of operation.

The CPM, in consultation with the District, may approve any such change to the ERC list provided that the project remains in compliance with all applicable laws, ordinances, regulations, and standards, the requested change(s) will not cause the project to result in a significant environmental impact, and the District confirms that each requested change is consistent with applicable federal and state laws and regulations. The CPM may also consult the U.S. EPA to determine compliance of credits.

Pollutant	Quantity	(units)	ERC# or Offset Strategy
NOx	38,234	lb	2005-2010, Coastal, Zone 1
NOx	452,359	lb	2006-2010+, Coastal Zone 1, Coastal Zone 2 (as listed in Ex. 2, p. 5.1-54.)
CO	677	lb/day	#AQ003178
CO	144	lb/day	#AQ004233
CO	3	lb/day	#AQ004222
CO	2	lb/day	#AQ004417
VOC	340	lb/day	#AQ003069
PM10	504	lb/day	Through Priority Reserve.
SOx	81	lb/day	Through Priority Reserve.

Verification: The project owner shall submit to the CPM records showing that the project's offset requirements have been met 15 days prior to initiating construction for Priority Reserve credits, and 30 days prior to turbine first fire for traditional ERCs. If the CPM approves a substitution or modification to the list of ERCs, the CPM shall file a statement of the approval with the project owner and commission docket. The CPM shall maintain an updated list of approved ERCs for the project.

AQ-SC10 If the project owner uses Priority Reserve Credits to satisfy District ERC requirements, the project owner shall comply with all applicable requirements of SCAQMD Rule 1309.1 governing the use of such credits. Note: Nothing in this condition shall waive the requirements of Section 1720.3 of the Commission's regulations.

Verification: Within 15 days of becoming operational, the project owner shall submit to the District and CPM documentation substantiating that the requirements of SCAQMD Rule 1309.1 and Section 1720.3 of the Commission's regulations have been met.

AQ-SC11 The project owner shall perform quarterly cooling tower recirculating water quality testing, or shall provide for continuous monitoring of conductivity as an indicator, for total dissolved solids content. The project owner shall also provide a flow meter to determine the daily cooling tower circulating water flow.

Verification: The project owner shall submit to the CPM cooling tower recirculating water quality tests or a summary of continuous monitoring results

and daily recirculating water flow in the Quarterly Operation Report (**AQ-SC8**). If the project owner uses continuous monitoring of conductivity as an indicator for total dissolved solids content, the project owner shall submit data supporting the calibration of the conductivity meter and the correlation with total dissolved solids content at least once each year in a Quarterly Operation Report (**AQ-SC8**).

AQ-SC12 The cooling tower daily PM_{10} emissions shall be limited to 79 lb/day. The cooling tower shall be equipped with a drift eliminator to control the drift fraction to 0.0005 percent of the circulating water flow. The project owner shall estimate daily PM_{10} emissions from the cooling tower using the water quality testing data or continuous monitoring data and daily circulating water flow data collected on a quarterly basis.

Verification: The project owner shall submit to the CPM daily cooling tower PM_{10} emission estimates in the Quarterly Operation Report (**AQ-SC8**).

AQ-SC13 The project owner shall minimize emissions of carbon monoxide and nitrogen oxides from the gas turbines and duct burners to the maximum extent possible during the commissioning period. Commissioning tests for one gas turbine shall not be conducted simultaneously with commissioning tests for the other.

Verification: See the verification for Condition **AQ-17**.

AQ-SC14 The project owner shall limit emissions during startup periods so that startup of a gas turbine shall only occur when the other turbine is not in a startup mode.

Verification: See the verification for Condition **AQ-17**.

AQ-SC15 The gas turbines and duct burners shall be fired on natural gas that results in emissions of less than 1.8 lb/hr SOx for each gas turbine and duct burner pair, averaged over three hours.

Verification: The project owner shall compile hourly SOx emissions data for each gas turbine and duct burner pair. The hourly emission data shall be calculated using the emission factor specified in Condition **AQ-13**. The emissions data shall be submitted to the CPM in the Quarterly Operation Report (**AQ-SC8**).

AQ-SC16 The project owner shall install and operate the equipment so that it does not exceed the emission limits set forth in the Equipment Description portion of Section H of the facility permit issued by the District. The current Equipment Description, as shown in the Addendum to the Final Determination of Compliance, is attached as **Attachment Air Quality 1 – AQ-SC16, Equipment Description**.

Verification: The project owner shall submit to the CPM emissions data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**). The project owner shall submit to the CPM all permit

changes, whether initiated by the project owner or the District, pursuant to Condition **AQ-SC7**.g

DISTRICT Conditions – DETERMINATION OF COMPLIANCE

Facility Conditions

AQ-1 Except for open abrasive blasting operations, the operator shall not discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is:

(a) As dark or darker in shade as that designated No.1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or

(b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subparagraph (a) of this condition. (SCAQMD F9-1)

Verification: The project owner shall document any known opacity violations in the Quarterly Operation Report (**AQ-SC8**). The project owner shall make the site available for inspection by representatives of the District, CARB, EPA and the Commission.

AQ-2 The operator shall not use diesel fuel containing sulfur compounds in excess of 0.05 percent by weight. (SCAQMD F14-1)

Verification: The project owner shall make fuel purchase, MSDS or other fuel supplier records containing diesel fuel sulfur content available for inspection by representatives of the District, CARB and the Commission upon request.

AQ-3 The operator shall not purchase diesel oil containing sulfur compounds in excess of 15 ppm by weight as supplied by the supplier.

This condition shall become effective on or after June 1, 2004. (SCAQMD F14-2)

Verification: The project owner shall make fuel oil purchase, MSDS or other fuel supplier records containing diesel fuel sulfur content available for inspection by representatives of the District, CARB and the Commission upon request.

AQ-4 Accidental release prevention requirements of Section 112(r)(7):

a). The operator shall comply with the accidental release prevention requirements pursuant to 40 CFR Part 68 and shall submit to the SCAQMD Executive Officer, as a part of an annual compliance certification, a statement that certifies compliance with all of the requirements of 40 CFR Part 68, including the registration and submission of a risk management plan (RMP).

b). The operator shall submit any additional relevant information requested by the Executive Officer or designated agency. (SCAQMD F24-1)

Verification: The project owner shall submit to the District and the CPM the documents listed above as part of an annual compliance certification.

Gas Turbines, Duct Burners, and SCR

CONDITIONS OF CERTIFICATION AQ-5 THROUGH AQ-28 APPLY PER TURBINE/HRSG UNIT UNLESS OTHERWISE IDENTIFIED.

AQ-5 The operator shall install and maintain a flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH_3).

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months. (SCAQMD 12-1)

Verification: The project owner shall make the site available for inspection of the ammonia flow meter and ammonia flow records by representatives of the District, CARB and the Commission.

AQ-6 The operator shall install and maintain a temperature gauge to accurately indicate the temperature in the exhaust at the inlet to the SCR reactor.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months. (SCAQMD 12-2)

Verification: The project owner shall make the site available for inspection of the temperature gauge on the inlet to the SCR and the continuous temperature records by representatives of the District, CARB and the Commission.

AQ-7 The operator shall install and maintain a pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches water column.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months. (SCAQMD 12-3)

Verification: The project owner shall make the site available for inspection of the SCR catalyst bed differential pressure gauge and the differential pressure records by representatives of the District, CARB and the Commission.

AQ-8 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NO_x emissions	District Method 100.1	1 hour	Outlet of the SCR
CO emissions	District Method 100.1	1 hour	Outlet of the SCR
SO_x emissions	Approved District Method	District Approved Averaging Time	Fuel Sample
ROG emissions	Approved District Method	1 hour	Outlet of the SCR
PM emissions	Approved District Method	District Approved Averaging Time	Outlet of the SCR
NH_3 emissions	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of the SCR

The test shall be conducted after District approval of the source test protocol, but no later than 180 days after initial start-up. The District shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the tests shall measure the fuel flow rate (CFH), the flue gas flow rate, and the turbine and steam turbine generating output in MW.

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the AQMD engineer no later than 45 days before the proposed test date and shall be approved by the District before the test commences. The test protocol shall include the proposed operating conditions of the turbine during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted for compliance verification of the BACT VOC 2.0 ppmv limit. For natural gas fired turbines only, this shall be demonstrated by the following test method: a) Stack gas samples are

extracted into Summa canisters, maintaining a final canister pressure between 400 - 500 mm Hg absolute, b) Pressurization of Summa canisters is done with zero gas analyzed/certified to containing less than 0.05 ppmv total hydrocarbons as carbon, and c) Analysis of Summa canisters is per EPA Method TO-12 (with pre-concentration) and the temperature of the Summa canisters when extracting samples for analysis is not to be below 70 degrees F. The use of this alternative method does not mean that it is more accurate than AQMD Method 25.3, nor does it mean that it may be used in lieu of AQMD method 25.3 without prior approval, except for the determination of compliance with the VOC BACT level of 2.0 ppmv calculated as carbon for natural gas fired turbines. Because the BACT level was set using data derived from various source test methods, this alternate method provides a fair comparison and represents the best sampling and analysis technique for this purpose at this time. The test results must be reported with two significant digits.

The test shall be conducted with and without duct firing when this equipment is operating at loads of 100, 75, and 50 percent of maximum load for the NO_x, CO, ROG and ammonia tests. For all other pollutants, the test shall be conducted with and without duct firing at 100% load only. (SCAQMD 29-1)

Verification: The project owner shall submit the proposed protocol for the initial source tests 45 days prior to the proposed source test date to the District for approval and to the CPM for review. The project owner shall notify the District and CPM no later than 10 days prior to the proposed initial source test date and time. The project owner shall submit source test results no later than 60 days following the initial source test date to both the District and CPM.

AQ-9 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
SO_x emissions	Approved District Method	District Approved Averaging Time	Fuel Sample
ROG emissions	Approved District Method	1 hour	Outlet of the SCR
PM emissions	Approved District Method	District Approved Averaging Time	Outlet of the SCR

The test(s) shall be conducted at least once every three years.

The test shall be conducted and the results submitted to the District within 60 days after the test date. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted 1) when the gas turbine and the duct burners are operating simultaneously at 100 percent of maximum heat input and 2) when the gas turbine is operating alone at 100 percent of maximum heat input.

The test shall be conducted for compliance verification of the BACT VOC 2.0 ppmv limit. For natural gas fired turbines only, this shall be demonstrated by the following test method: a) Stack gas samples are extracted into Summa canisters, maintaining a final canister pressure between 400 - 500 mm Hg absolute, b) Pressurization of Summa canisters is done with zero gas analyzed/certified to containing less than 0.05 ppmv total hydrocarbons as carbon, and c) Analysis of Summa canisters is per EPA Method TO-12 (with pre-concentration) and the temperature of the Summa canisters when extracting samples for analysis is not to be below 70 degrees F. The use of this alternative method does not mean that it is more accurate than AQMD Method 25.3, nor does it mean that it may be used in lieu of AQMD method 25.3 without prior approval, except for the determination of compliance with the VOC BACT level of 2.0 ppmv calculated as carbon for natural gas fired turbines. Because the BACT level was set using data derived from various source test methods, this alternate method provides a fair comparison and represents the best sampling and analysis technique for this purpose at this time. The test results must be reported with two significant digits.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration and/or monthly emissions limit. (SCAQMD 29-2)

Verification: The project owner shall submit the proposed protocol for the triennial source tests 45 days prior to the proposed source test date to the District for approval and to the CPM for review. The project owner shall notify the District and CPM no later than 10 days prior to the proposed source test date and time. The project owner shall submit source test results no later than 60 days following the source test date to both the District and CPM.

AQ-10 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NH_3 emissions	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of the SCR

The test shall be conducted and the results submitted to the District within 60 days after the test date. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The NOx concentration, as determined by the certified CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable or not yet certified, a test shall be conducted to determine the NOx emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit. (SCAQMD 29-3)

Verification: The project owner shall submit the proposed protocol for the ammonia slip source tests 30 days prior to the proposed source test date to the District for approval and to the CPM for review. The project owner shall notify the District and CPM no later than ten days prior to the proposed source test date and time. The project owner shall submit source test results no later than 60 days following the source test date to both the District and CPM.

AQ-11 The operator shall provide to the District a source test report (see **AQ-8**, **AQ-9**, and **AQ-10**)in accordance with the following specifications:

Source test results shall be submitted to the District no later than 60 days after the source test was conducted.

Emission data shall be expressed in terms of concentration (ppmv), corrected to 15 percent oxygen (dry basis), mass rate (lbs/hr), and lbs/MM cubic feet. In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.

All exhaust flow rates shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).

All moisture concentration shall be expressed in terms of percent corrected to 15 percent oxygen.

Source test results shall also include the oxygen levels in the exhaust, the fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) under which the test was conducted. (SCAQMD 40-1)

Verification: See verifications for Conditions **AQ-8**, **AQ-9**, and **AQ-10**.

AQ-12 The operator shall not use natural gas containing the following specified compounds:

Compound	**Grains per 100 scf**
H2S	Greater than 0.25

This concentration limit is an annual average based on monthly sample of natural gas composition. (SCAQMD 61-1)

Verification: The project owner shall submit to the CPM and APCO turbine fuel data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-13 The operator shall limit emissions from this equipment as follows:

Contaminant	**Emissions Limit**
CO	9,960 LBS IN ANY 1 MONTH
PM_{10}	7,440 LBS IN ANY 1 MONTH
ROG	4,188 LBS IN ANY 1 MONTH
SO_x	1,197 LBS IN ANY 1 MONTH

For the purpose of this condition, the limits shall be based on the combined emissions from each gas turbine and its associated duct burners.

The operator shall calculate the emissions by using monthly fuel use data and the following emission factors: PM_{10} with duct burners firing 4.23 lbs/mmscf, PM_{10} without duct burners firing 5.01 lbs/mmscf, ROG with duct burners firing 2.55 lbs/mmscf, ROG without duct burners firing 1.41 lbs/mmscf, SO_x 0.71 lbs/mmscf with and without duct burner firing.

The operator shall calculate the emissions for CO, during the commissioning period, using fuel consumption data and the following emission factor: 127.87 lb/mmscf.

The operator shall calculate the emissions for CO, after the commissioning period and prior to the CO CEMS certification, using fuel consumption data and the following emission factor: 19.76 lbs/mmscf.

The operator shall calculate the emissions for CO, after the CO CEMS certification, based on readings from the certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan. (SCAQMD 63-1)

Verification: The project owner shall submit to the CPM and APCO turbine emissions data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-14 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

Natural gas fuel use during the commissioning period. (SCAQMD 67-1)

Verification: The project owner shall make the site available for inspection of the commissioning period natural gas usage data by representatives of the District, CARB and the Commission.

AQ-15 The operator shall install and maintain a CEMS to measure the following parameters:

CO concentration in ppmv.

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CEMS will convert the actual CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis.

The CEMS shall be installed and operated, in accordance with an approved AQMD Rule 218 CEMS plan application. The operator shall not install the CEMS prior to receiving initial approval from AQMD.

The CEMS shall be installed and operated to measure CO concentration over a 15 minute averaging time period.

The CEMS shall be installed and operating no later than 90 days after initial startup of the turbine. (SCAQMD 82-1)

Verification: The project owner shall provide the CPM documentation of the Districts approval of the CEMS, within 15 days of its receipt. The project owner shall make the site available for inspection of the CEMS by representatives of the District, CARB and the Commission.

AQ-16 The operator shall install and maintain a CEMS to measure the following parameters:

NO_x concentration is expressed in ppmv.

Concentrations shall be corrected to 15 percent oxygen on a dry basis.

The CEMS shall be installed and operating no later than 12 months after initial start-up of the turbine and shall comply with the requirements of Rule 2012. During the interim period between the initial start-up and the provisional certification date of the CEMS, the operator shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3). Within two weeks of the turbine startup

date, the operator shall provide written notification to the District of the exact date of start-up. (SCAQMD 82-2)

Verification: The project owner shall provide the CPM documentation of the Districts approval of the CEMS, within 15 days of its receipt. The project owner shall make the site available for inspection of the CEMS by representatives of the District, CARB and the Commission.

AQ-17 The 2.0 ppm NO_x emission limit(s) shall not apply during turbine commissioning, startup, and shutdown periods. Startup/shutdown time shall not exceed four hours per day per gas turbine. The commissioning period per gas turbine shall not exceed 636 operating hours from the date of initial start-up. The operator shall provide the AQMD with written notification of the start-up date. Written records of commissioning, startups, and shutdowns shall be maintained and made available upon request from AQMD. (SCAQMD 99-1)

Verification: The project owner shall submit, commencing one month from the time of gas turbine first fire, a monthly commissioning status report throughout the duration of the commissioning phase that demonstrates compliance with this condition and the emission limits of Condition **AQ-13**. The monthly commissioning status report shall include criteria pollutant emission estimates for each commissioning activity and total commissioning emission estimates. The monthly commissioning status report shall be submitted to the CPM until the report includes the completion of the initial commissioning activities. The project owner shall provide start-up and shutdown occurrence and duration data as part as part of the Quarterly Operation Report (**AQ-SC8**). The project owner shall make the site available for inspection of the commissioning and start-up/shutdown records by representatives of the District, CARB and the Commission.

AQ-18 The 3.0 ppm CO emission limit(s) shall not apply during turbine commissioning, startup, and shutdown periods. Startup/shutdown time shall not exceed four hours per day per gas turbine. The commissioning period per gas turbine shall not exceed 636 operating hours from the date of initial start-up. The operator shall provide the AQMD with written notification of the initial start-up date. Written records of commissioning, startups, and shutdowns shall be maintained and made available upon request from AQMD. (SCAQMD 99-2)

Verification: See verification of Condition **AQ-17**.

AQ-19 The 14.03 lbs/mmscf NO_x emission limit(s) shall only apply during the interim period to report RECLAIM emissions. The interim period shall not exceed 12 months from the initial startup date. (SCAQMD 99-3)

Verification: The project owner shall submit to the CPM and APCO turbine emissions data demonstrating compliance with this condition through the use of

the required RECLAIM emission factor, as appropriate, as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-20 For the purpose of the following conditions continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.

Condition **AQ-5**

Condition **AQ-6** (SCAQMD 179-1)

Verification: See verifications for Conditions **AQ-5** and **AQ-6**.

AQ-21 For the purpose of the following condition continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that month.

Condition **AQ-7** (SCAQMD 179-2)

Verification: See verification for Condition **AQ-7**.

AQ-22 The 2.0 ppmv NO_x emission limit is averaged over 1 hour at 15 percent oxygen, dry basis. The limit shall not apply to the first fifteen 1-hour average NOx emissions above 2.0 ppmv, dry basis at 15% O2, in any rolling 12-month period for each combustion gas turbine provided that it meets all of the following requirements:

A. This equipment operates under any one of the qualified conditions described below:

a) Rapid combustion turbine load changes due to the following conditions:
- Load changes initiated by the California ISO or a successor entity when the plant is operating under Automatic Generation Control; or
- Activation of a plant automatic safety or equipment protection system which rapidly decreases turbine load

b) The first two 1-hour reporting periods following the initiation/shutdown of a fogging system injection pump

c) The first two 1-hour reporting periods following the initiation/shutdown of combustion turbine steam injection

d) The first two 1-hour reporting periods following the initiation of HRSG duct burners

e) Events as the result of technological limitation identified by the operator and approved in writing by the AQMD Executive Officer or his designees

B. The 1-hour average NOx emissions above 2.0 ppmv, dry basis at 15% O2, did not occur as a result of operator neglect, improper operation or maintenance, or qualified breakdown under Rule 2004(i).

C. The qualified operating conditions described in (A) above are recorded in the plant's operating log within 24 hours of the event, and in the CEMS by 5 p.m. the next business day following the qualified operating condition. The notations in the log and CEMS must describe the date and time of entry into the log/CEMS and the plant operating conditions responsible for NOx emissions exceeding the 2.0 ppmv 1-hour average limit.

D. The 1-hour average NOx concentration for periods that result from a qualified operating condition does not exceed 25 ppmv, dry basis at 15 percent O2.

All NOx emissions during these events shall be included in all calculations of hourly, daily, and annual mass emission rates as required by this permit. (SCAQMD 195-1)

Verification: The project owner shall submit to the CPM and APCO turbine CEMS emissions data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-23 The 3.0 ppmv CO emission limit is averaged over 1 hour at 15 percent oxygen, dry basis when the HRSG duct burners are not operating. The 4.0 ppmv CO emission limit is averaged over 1 hour at 15 percent oxygen, dry basis when the HRSG duct burners are operating. (SCAQMD 195-2)

Verification: The project owner shall submit to the CPM and APCO turbine CEMS emissions data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-24 The 2.0 ppmv ROG emission limit is averaged over 1 hour at 15 percent oxygen, dry basis. (SCAQMD 195-3)

Verification: See verifications for Conditions **AQ-8** and **AQ-9**.

AQ-25 The 5 ppmv NH_3 emissions limit is averaged over 1 hour at 15 percent oxygen, dry basis. (SCAQMD 195-6)

Verification: See verification for Conditions **AQ-8**, **AQ-10**, and **AQ-26**.

AQ-26 The operator shall install, operate, and maintain an approved Continuous Emission Monitoring Device, approved by the Executive Officer, to monitor and record ammonia concentrations, and alert the operator (via audible or visible alarm) whenever ammonia concentrations are near, at, or in excess of the permitted ammonia limit of 5 ppmv, corrected to 15% oxygen. It shall continuously monitor or calculate, and record the following parameters:

- Ammonia concentration, uncorrected in ppmv
- Oxygen concentration in percent
- Ammonia concentration in ppmv, corrected to 15% oxygen
- Date, time, extent (in time) of all excursions above 5 ppmv, corrected to 15% oxygen

The Continuous Emission Monitoring Device described above shall be operated and maintained according to a Quality Assurance Plan (QAP) approved by the Executive Officer. The QAP must address contingencies for monitored ammonia concentrations near, at, or above the permitted compliance limit, and remedial actions to reduce ammonia levels once an exceedance has occurred.

The Continuous Emission Monitoring Device may not be used for compliance determination or emission information determination without corroborative data using an approved reference method for the determination of ammonia.

The Continuous Emission Monitoring Device shall be installed and operating no later than 90 days after initial startup of the turbine. (SCAQMD 232-1)

Verification: The project owner shall provide the CPM documentation of the District's approval of the continuous emission monitoring device, within 15 days of its receipt. The project owner shall make the site available for inspection of the monitoring device and monitoring device records by representatives of the District, CARB and the Commission. The project owner shall submit to the CPM emissions data generated by the continuous emission monitoring device as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-27 This equipment shall not be operated unless the operator demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase. (SCAQMD 296-1)

Verification: The project owner shall submit to the CPM copies of all RECLAIM reports filed with the District demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-28 For the purpose of determining compliance with District Rule 475, combustion contaminant emissions may exceed the concentration limit or the mass emission limit listed, but not both limits at the same time. (SCAQMD 327-1)

Verification: See verifications for Conditions **AQ-8** and **AQ-9**.

Auxiliary Boiler and SCR

AQ-29 The operator shall install and maintain a flow meter to accurately indicate the flow rate of the total hourly throughput of injected ammonia (NH_3).

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months. (SCAQMD 12-1)

Verification: The project owner shall make the site available for inspection of the ammonia flow meter and ammonia flow records by representatives of the District, CARB and the Commission.

AQ-30 The operator shall install and maintain a temperature gauge to accurately indicate the temperature in the exhaust at the inlet to the SCR reactor.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months. (SCAQMD 12-2)

Verification: The project owner shall make the site available for inspection of the temperature gauge on the inlet to the SCR and the continuous temperature records by representatives of the District, CARB and the Commission.

AQ-31 The operator shall install and maintain a pressure gauge to accurately indicate the differential pressure across the SCR catalyst bed in inches water column.

The operator shall also install and maintain a device to continuously record the parameter being measured.

The measuring device or gauge shall be accurate to within plus or minus 5 percent. It shall be calibrated once every twelve months. (SCAQMD 12-3)

Verification: The project owner shall make the site available for inspection of the SCR catalyst bed differential pressure gauge and the differential pressure records by representatives of the District, CARB and the Commission.

AQ-32 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NO_x emissions	District Method 100.1	1 hour	Outlet of the SCR
CO emissions	District Method 100.1	1 hour	Outlet of the SCR
SO_x emissions	Approved District Method	District Approved Averaging Time	Fuel Sample
ROG emissions	Approved District Method	1 hour	Outlet of the SCR
PM emissions	Approved District Method	District Approved Averaging Time	Outlet of the SCR
NH_3 emissions	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of the SCR

The test shall be conducted after District approval of the source test protocol, but no later than 180 days after initial start-up. The District shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted to determine the oxygen levels in the exhaust. In addition, the tests shall measure the fuel flow rate (CFH), the flue gas flow rate.

The test shall be conducted in accordance with a District approved source test protocol. The protocol shall be submitted to the AQMD engineer no later than 45 days before the proposed test date and shall be approved by the District before the test commences. The test protocol shall include the proposed operating conditions of the auxiliary boiler during the tests, the identity of the testing lab, a statement from the testing lab certifying that it meets the criteria of Rule 304, and a description of all sampling and analytical procedures.

The test shall be conducted when this equipment is operating at loads of 100, 75, and 50 percent of maximum load for the NOx, CO, ROG and ammonia tests. For all other pollutants, the test shall be conducted at 100% load only. (SCAQMD 29-1).

Verification: The project owner shall submit the proposed protocol for the initial source tests 45 days prior to the proposed source test date to the District for approval and to the CPM for review. The project owner shall submit source test results no later than 60 days following the source test date to both the District and CPM. The project owner shall notify the District and CPM no later than 10 days prior to the proposed initial source test date and time.

AQ-33 The operator shall conduct source test(s) for the pollutant(s) identified below.

Pollutant(s) to be tested	Required Test Method(s)	Averaging Time	Test Location
NH_3 emissions	District Method 207.1 and 5.3 or EPA Method 17	1 hour	Outlet of the SCR

The test shall be conducted and the results submitted to the District within 60 days after the test date. The AQMD shall be notified of the date and time of the test at least 10 days prior to the test.

The test shall be conducted at least quarterly during the first twelve months of operation and at least annually thereafter. The NO_x concentration, as determined by the certified CEMS, shall be simultaneously recorded during the ammonia slip test. If the CEMS is inoperable or not yet certified, a test shall be conducted to determine the NO_x emissions using District Method 100.1 measured over a 60 minute averaging time period.

The test shall be conducted to demonstrate compliance with the Rule 1303 concentration limit. (SCAQMD 29-3)

Verification: The project owner shall submit the proposed protocol for the source tests 30 days prior to the proposed source test date to the District for approval and to the CPM for review. The project owner shall notify the District and CPM no later than ten days prior to the proposed source test date and time. The project owner shall submit source test results no later than 45 days following the source test date to both the District and CPM.

AQ-34 The operator shall provide to the District a source test report (see **AQ-32** and **AQ-33**) in accordance with the following specifications:

- Source test results shall be submitted to the District no later than 60 days after the source test was conducted.
- Emission data shall be expressed in terms of concentration (ppmv), corrected to 3 percent oxygen (dry basis), mass rate (lbs/hr), and lbs/MM cubic feet. In addition, solid PM emissions, if required to be tested, shall also be reported in terms of grains per DSCF.
- All exhaust flow rates shall be expressed in terms of dry standard cubic feet per minute (DSCFM) and dry actual cubic feet per minute (DACFM).
- All moisture concentration shall be expressed in terms of percent corrected to 3 percent oxygen.

- Source test results shall also include the oxygen levels in the exhaust, the fuel flow rate (CFH), the flue gas temperature, and the generator power output (MW) under which the test was conducted. (SCAQMD 40-2)

Verification: See verifications for Conditions **AQ-32** and **AQ-33**.

AQ-35 Reserved.

Verification: Reserved.

AQ-36 The operator shall limit emissions from this equipment as follows:

Contaminant	**Emissions Limit**
CO	667 LBS IN ANY 1 MONTH
PM_{10}	233 LBS IN ANY 1 MONTH
ROG	127 LBS IN ANY 1 MONTH
SO_x	19 LBS IN ANY 1 MONTH

The operator shall calculate the emissions by using monthly fuel use data and the following emission factors: CO 21.72 lb/mmscf, PM_{10} 7.58 lbs/mmscf, ROG 4.14 lbs/mmscf, SO_x 0.70 lbs/mmscf.

The operator shall calculate the emissions for CO, after the CO CEMS certification, based on readings from the certified CEMS. In the event the CO CEMS is not operating or the emissions exceed the valid upper range of the analyzer, the emissions shall be calculated in accordance with the approved CEMS plan. (SCAQMD 63-2)

Verification: The project owner shall submit to the CPM and APCO boiler emissions data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-37 The operator shall install and maintain a CEMS to measure the following parameters:

- CO concentration in ppmv.
- Concentrations shall be corrected to 3 percent oxygen on a dry basis.
- The CEMS will convert the actual CO concentrations to mass emission rates (lbs/hr) and record the hourly emission rates on a continuous basis.

- The CEMS shall be installed and operated, in accordance with an approved AQMD Rule 218 CEMS plan application. The operator shall not install the CEMS prior to receiving initial approval from AQMD.

- The CEMS shall be installed and operated to measure CO concentration over a 15 minute averaging time period.

- The CEMS shall be installed and operating no later than 90 days after initial startup of the boiler. (SCAQMD 82-3)

Verification: The project owner shall provide the CPM documentation of the Districts approval of the CEMS, within 15 days of its receipt. The project owner shall make the site available for inspection of the CEMS by representatives of the District, CARB and the Commission.

AQ-38 The operator shall install and maintain a CEMS to measure the following parameters:

- NO_x concentration is expressed in ppmv.

- Concentrations shall be corrected to 3 percent oxygen on a dry basis.

- The CEMS shall be installed and operating no later than 12 months after initial start-up of the boiler and shall comply with the requirements of Rule 2012. During the interim period between the initial start-up and the provisional certification date of the CEMS, the operator shall comply with the monitoring requirements of Rule 2012(h)(2) and 2012(h)(3). Within two weeks of the boiler startup date, the operator shall provide written notification to the District of the exact date of start-up. (SCAQMD 82-4)

Verification: The project owner shall provide the CPM documentation of the Districts approval of the CEMS, within 15 days of its receipt. The project owner shall make the site available for inspection of the CEMS by representatives of the District, CARB and the Commission.

AQ-39 The 8.36 lbs/mmscf NO_x emission limit(s) shall only apply during the interim reporting period to report RECLAIM emissions. The interim reporting period shall not exceed 12 months from the initial startup date. (SCAQMD 99-4)

Verification: The project owner shall submit to the CPM and APCO auxiliary boiler emissions data demonstrating compliance with this condition through the use of the required RECLAIM emission factor, as appropriate, as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-40 For the purpose of the following conditions continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that hour.
Condition **AQ-29**
Condition **AQ-30** (SCAQMD 179-1)

Verification: See verifications for Conditions **AQ-29** and **AQ-30**.

AQ-41 For the purpose of the following condition continuously record shall be defined as recording at least once every hour and shall be calculated based upon the average of the continuous monitoring for that month.

Condition **AQ-31** (SCAQMD 179-2)

Verification: See verification for Condition **AQ-31**.

AQ-42 The 7 ppmv NO_x emission limit(s) are averaged over one hour at 3 percent oxygen, dry basis. (SCAQMD 195-4)

Verification: The project owner shall submit to the CPM and APCO auxiliary boiler CEMS emissions data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-43 The 50 ppmv CO emission limit(s) are averaged over 1 hour at 3 percent oxygen, dry basis. (SCAQMD 195-5)

Verification: The project owner shall submit to the CPM and APCO auxiliary boiler CEMS emissions data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-44 The 5 ppmv NH3 emission limit(s) are averaged over 1 hour at 3 percent oxygen, dry basis. (SCAQMD 195-7)

Verification: See verification for Conditions **AQ-32**, **AQ-33**, and **AQ-45**.

AQ-45 The operator shall install, operate, and maintain an approved Continuous Emission Monitoring Device, approved by the Executive Officer, to monitor and record ammonia concentrations, and alert the operator (via audible or visible alarm) whenever ammonia concentrations are near, at, or in excess of the permitted ammonia limit of 5 ppmv, corrected to 3% oxygen. It shall continuously monitor or calculate, and record the following parameters:

- Ammonia concentration, uncorrected in ppmv
- Oxygen concentration in percent
- Ammonia concentration in ppmv, corrected to 3 percent oxygen
- Date, time, extent (in time) of all excursions above 5 ppmv, corrected to 3 percent oxygen

- The Continuous Emission Monitoring Device described above shall be operated and maintained according to a Quality Assurance Plan (QAP) approved by the Executive Officer. The QAP must address contingencies for monitored ammonia concentrations near, at, or above the permitted compliance limit, and remedial actions to reduce ammonia levels once an exceedance has occurred.

- The Continuous Emission Monitoring Device may not be used for compliance determination or emission information determination without corroborative data using an approved reference method for the determination of ammonia.

- The Continuous Emission Monitoring Device shall be installed and operating no later than 90 days after initial startup of the boiler. (SCAQMD 232-2)

Verification: The project owner shall provide the CPM documentation of the District's approval of the continuous emission monitoring device, within 15 days of its receipt. The project owner shall make the site available for inspection of the monitoring device and monitoring device records by representatives of the District, CARB and the Commission. The project owner shall submit to the CPM emissions data generated by the continuous emission monitoring device as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-46 This equipment shall not be operated unless the operator demonstrates to the Executive Officer that the facility holds sufficient RTCs to offset the prorated annual emissions increase for the first compliance year of operation. In addition, this equipment shall not be operated unless the operator demonstrates to the Executive Officer that, at the commencement of each compliance year after the first compliance year of operation, the facility holds sufficient RTCs in an amount equal to the annual emissions increase. (SCAQMD 296-1)

Verification: The project owner shall submit to the CPM copies of all RECLAIM reports filed with the District demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

Emergency Generator and Fire Pump Engine

Conditions of Certification AQ-47 through AQ-50 apply separately to the emergency generator and fire pump engine, unless otherwise specified.

AQ-47 The operator shall limit the operating time of the engine to no more than 200 hours per year. (SCAQMD 1-1)

Verification: The project owner shall submit to the CPM and APCO the emergency generator and fire pump IC engines operations data demonstrating compliance with this condition as part of the Quarterly Operation Report (**AQ-SC8**).

AQ-48 The operator shall install and maintain a non-resetable elapsed time meter to accurately indicate the elapsed operating time of the engine. (SCAQMD 12-4)

Verification: The project owner shall make the emergency generator and fire pump engine available for inspection by representatives of the District, CARB and the Commission upon request.

AQ-49 The operator shall install and maintain a non-resetable elapsed fuel meter to accurately indicate the engine fuel consumption. (SCAQMD 12-5)

Verification: The project owner shall make the emergency generator and fire pump engine available for inspection by representatives of the District, CARB and the Commission upon request.

AQ-50 The operator shall keep records, in a manner approved by the District, for the following parameters or items:

- Date of operation, the elapsed time, in hours, and the reason for operation.
- Records shall be kept and maintained on file for a minimum of two years and made available to district personnel upon request. (SCAQMD 67-2)

Verification: The project owner shall make the emergency generator and fire pump engine records available for inspection by representatives of the District, CARB and the Commission upon request.

Ammonia Storage Tanks

AQ-51 The operator shall vent this equipment, during filling, only to the vessel from which it is being filled. (SCAQMD 144-1)

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission upon request.

AQ-52 The operator shall install and maintain a pressure relief valve set at 25 psig. (SCAQMD 157-1)

Verification: The project owner shall make the ammonia tank pressure relief valve and its specifications available for inspection by representatives of the District, CARB and the Commission upon request.

Organic Materials

AQ-53 The operator shall be subject to the applicable requirements of District Rule 1171 for VOC control from Solvent Cleaning Operations. This

requirement shall apply to Rule 219 Exempted Cleaning Equipment. (SCAQMD 23-1)

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission upon request.

AQ-54 The operator shall keep records, in a manner approved by the District, for the following parameter(s) or item(s):

- For architectural applications where no thinners, reducers, or other VOC containing materials are added, maintain semi-annual records for all coating consisting of (a) coating type, (b) VOC content as supplied in grams per liter (g/l) of materials for low-solids coatings, (c) VOC content as supplied in g/l of coating, less water and exempt solvent, for other coatings.

- For architectural applications where thinners, reducers, or other VOC containing materials are added, maintain daily records for each coating consisting of (a) coating type, (b) VOC content as applied in grams per liter (g/l) of materials used for low-solids coatings, (c) VOC content as applied in g/l of coating, less water and exempt solvent, for other coatings.

- This requirement shall apply to Rule 219 Exempted Coating Equipment. (SCAQMD 67-3)

Verification: The project owner shall make the site available for inspection by representatives of the District, CARB and the Commission upon request.

B. PUBLIC HEALTH

The public health analysis supplements the previous discussion on air quality and considers the potential public health effects from project emissions of toxic air contaminants. In this analysis, the Commission determines whether such emissions of non-criteria pollutants will result in significant adverse public health impacts.[18]

Summary and Discussion of the Evidence

Project construction and operation will result in routine emissions of toxic air contaminants (TACs). These substances are categorized as noncriteria pollutants because there are no ambient air quality standards established to regulate their emissions.[19] In the absence of standards, state and federal regulatory programs have developed a health risk assessment procedure to evaluate potential health effects from TAC emissions.[20] The Air Toxics "Hot Spots" Information and Assessment Act requires the quantification of TACs from specified facilities that are categorized according to their emissions levels and proximity to sensitive receptors. (Health and Safety Code, § 44360 et seq.)

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[18] This Decision addresses other potential public health concerns in the following sections. The accidental release of hazardous materials is discussed in **Hazardous Materials Management** and **Worker Safety and Fire Protection**. Electromagnetic fields are discussed in the section on **Transmission Line Safety and Nuisance**. Potential impacts to soils and surface water sources are discussed in the **Soil and Water Resources** section. Hazardous and non-hazardous wastes are described in **Waste Management**.

[19] Criteria pollutants are discussed in the Air Quality section. They are pollutants for which ambient air quality standards have been established by local, state, and federal regulatory agencies. The emission control technologies that the project owner will employ to mitigate criteria pollutant emissions are considered effective for controlling noncriteria pollutant emissions from the same source. (Ex. 67, p. 5.7-1.)

[20] The health risk assessment protocol is set forth in the Air Toxics "Hot Spot" Program Risk Assessment Guidelines developed by the California Air Pollution Control Officers Association (CAPCOA) pursuant to the Air Toxics "Hot Spots" Information and Assessment Act, AB 2588 (Health and Safety Code, § 44360 et seq.). (Ex. 1, § 5.15.2.2.)

1. Health Risk Assessment

Applicant performed a health risk assessment that was reviewed by Staff and the South Coast Air Quality Management District (Air District). Applicant's risk assessment employed scientifically accepted methodology that is consistent with the CAPCOA Guidelines and with methods developed by the California Office of Environmental Health Hazard Assessment (OEHHA), California Air Resources Board (CARB), and CAPCOA. (Ex. 1, § 5.15.2.2 et seq.) This approach emphasizes a worst-case "screening" analysis to evaluate the highest level of potential impact. Applicant included the following steps in its analysis:

- Identification of the types and amounts of hazardous substances that the IEEC project could emit to the environment;
- Estimation of the worst-case concentrations of project emissions in the environment using dispersion modeling;
- Estimation of the amounts of pollutants to which people could be exposed through inhalation, ingestion, and dermal contact; and
- Characterization of potential health risks by comparing worst-case exposure to safe standards based on known health effects. (Ex. 1, § 5.15.2-2; Ex. 67, pp. 5.7-1 to 5.7-2.)

The risk assessment addressed three categories of health impacts: acute (short-term), chronic (long-term), and carcinogenic health effects. (Ex. 1, § 5.15.2.2 et seq.; Ex. 67, pp. 5.7-2, 5.7-4.) Regulatory agencies use the hazard index method to assess the likelihood of acute or chronic non-cancer effects. In this approach, the hazard index is a numerical representation of the likelihood of significant health impacts at the reference exposure levels (RELs) expected for the source in question. These exposure levels are designed to protect the most sensitive individuals in the population, such as infants, the aged, and people suffering from an illness. (Ex. 67, p. 5.7-2.) After calculating the hazard indices

for the individual pollutants,[21] these indices are added together to obtain a total hazard index. A total hazard index of 1.0 or less is considered an insignificant effect. (Ex. 67, pp. 5.7-2 to 5.7-4.)

Potential cancer risk is calculated by multiplying the exposure estimate by the potency factors for the individual carcinogens involved.[22] The chief exposure assumption is one of continuous exposure (at maximum emission rates) over a 70-year period at each identified receptor location. When combined with EPA-approved dispersion modeling methodologies, the use of OEHHA cancer potency factors and OEHHA and CAPCOA RELs, this health risk assessment provides an upper bound estimate of the potential risks. Actual risks are not expected to be any higher than the predicted risks and are likely to be substantially lower. (Ex. 67, p. 5.7-3.) Toxic pollutant emissions potentially associated with the IEEC were estimated using emission factors approved by the South Coast AQMD, CARD and USEPA. (Ex. 1, p. 5.15.-4.) Staff considers a potential cancer risk of ten in a million as the level of significance.[23] (Ex. 67, pp. 5.7-4 to 5.7-5.)

2. Potential Impacts

Applicant identified sensitive receptors, such as schools, day care centers, and hospitals, within six miles of the site. (Ex. 1, § 5.15.1.) Applicant then applied

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[21] The project's noncriteria pollutants that were considered in analyzing non-cancer effects include: ammonia, used for the SCR system for NO_x control, acetaldehyde, acrolein, benzene, 1,3 butadiene, ethylbenzene, formaldehyde, hexane, naphthalene, aromatic hydrocarbons (PAHs), propylene oxide, toluene, and xylenes. (Ex. 1, Table 5.15-3; Ex. 67, p. 5.7-11.)

[22] The following noncriteria pollutants were considered with regard to possible cancer risk: acetaldehyde, benzene, 1,3 butadiene, formaldehyde, PAHs, arsenic, lead, mercury, and propylene oxide. (Ex. 1, Table 5.14-4; Ex. 67, p. 5.7-11.)

[23] Under the Air Toxics "Hot Spots" and the Proposition 65 programs, a risk of 10 in a million is considered significant and used as a threshold for public notification. The Proposition 65 significance level applies separately to each cancer-causing substance, whereas Staff determines significance based on the total risk from all cancer-causing chemicals. The Air District allows an incremental risk of 10 in a million for a source such as IEEC where the best available control technology for air toxics is used. (Ex. 67, p. 5.7-4.) In this case, BACT includes the project's dry low NO_x combustors, oxidation catalyst, and SCR technology.

the USEPA-approved ISCST3 air dispersion model to identify ground-level concentrations in all terrain settings based on one year of meteorological data. The modeling results were incorporated into the health risk analysis. (*Ibid*.)

a. Construction Phase

The construction phase is expected to take approximately 22 months. Potential construction-related public health impacts are due to windblown dust from site grading and other construction-related activities, and diesel fuel emissions from heavy equipment and vehicles used in construction. (Ex. 67, p. 5.7-9.)

Worst-case daily dust emissions of 50.2 lbs/day PM_{10} are expected to occur in the fifth month of construction. (Ex. 67, p. 5.7-9.) Mitigation measures will reduce the maximum calculated PM_{10} concentrations. (*See* **Air Quality** section in this Decision.) These measures include the use of extensive fugitive dust control measures (stipulated by SCAQMD Rule 403) which are assumed to result in a 90 percent reduction of emissions. Condition of Certification **AQ-SC3** requires the spraying of water to manage buildup of loose materials and requires all trucks hauling loose material to apply an appropriate cover. (Ex. 67, p. 5.7-9; Ex. 68, pp. 8-9.)

Diesel emissions are generated from sources such as trucks, graders, cranes, welding machines, electric generators, air compressors, and water pumps. Although diesel exhaust contains criteria pollutants such as nitrogen oxides, carbon monoxide, and sulfur oxides, it also includes a complex mixture of many of gases and fine particles. (Ex. 67, pp. 5.7-8 to 5.7-8.) Exposure to diesel exhaust causes short-term adverse health effects, including increased coughing, labored breathing, chest tightness, wheezing, and eye and nasal irritation. Long-term effects can include increased coughing, chronic bronchitis, reductions in lung function, and inflammation of the lung. Epidemiological studies also strongly

suggest a causal relationship between occupational diesel exhaust exposure and lung cancer. (Ex. 67, p. 5.7-9.)

In order to mitigate potential impacts from particulate emissions during the operation of diesel-powered construction equipment, we are requiring the use of ultra low sulfur diesel fuel and the installation of soot filters on diesel equipment. The degree of particulate matter reduction is comparable for both mitigation measures. It ranges from approximately 85 to 92 percent. Such filters will reduce diesel emissions during construction and reduce any potential for significant health impacts. The evidence of record establishes that implementation of the measures described above will reduce risks due to diesel emissions during construction of the IEEC to an insignificant level. (Ex. 67, pp. 5.7-9 to 5.7-10.)

A Phase I Environmental Site Assessment (ESA) was performed. It revealed no evidence of contamination. (Ex. 67, p. 5.7-8.) The Conditions of Certification contained in the **Waste Management** section will reduce the risk of contamination to both on-site workers and the off-site public to insignificant levels.

b. Operation

The emissions sources at the IEEC include two combustion turbine generators, two heat recovery steam generators, one condensing steam turbine generator, a diesel fire pump, and a cooling tower. During operation, potential public health risks are related to diesel exhaust emissions and natural gas combustion emissions. (Ex. 67, p. 5.7-9.)

The AFC lists non-criteria pollutants that may be emitted from IEEC project turbines, cooling tower, and Selective Catalytic Reduction (SCR) system as combustion byproducts. (Ex. 1, Table 5.15-4.) The parties identified the

project's potential toxic air contaminant emissions based on the California Air Toxics Emission Factor (CATEF) database maintained by the California Air Resources Board. (Ex. 67, p. 5.7-10; *see* pollutants in footnotes 19 & 20, *ante*.)

The screening health risk assessment for the project, including combustion and non-combustion emissions, resulted in a maximum acute hazard index of 0.1275 at the project's eastern site boundary. The chronic hazard index at the point of maximum impact is 0.029. The location of the maximum chronic hazard is about 3,000 meters south of the proposed site. (Ex.1, Figure K-9-2.) As **Public Health Table 2** (replicated from Staff's testimony) shows, both acute and chronic hazard indices are under the REL of 1.0, indicating that no short- or long-term adverse health effects are expected. (Ex. 67, p. 5.7-13.)

Public Health Table 2
Operation Hazard/Risk

Type of Hazard/Risk	Hazard Index/Risk	Significance Level	Significant?
ACUTE NONCANCER	0.1275	1.0	No
CHRONIC NONCANCER	0.029	1.0	No
INDIVIDUAL CANCER	0.39×10^{-6}	10.0×10^{-6}	No

Source: Ex. 67, p. 5.7-13, FWEC 2002d, response to workshop DR 79, page 15.

As shown in **Public Health Table 2**, total worst-case individual cancer risk is calculated to be 0.39 in one million approximately 3,000 meters south of the project, well below the level of significance. (RT 7/30/03, p. 312.). Staff reviewed the health risk assessment performed by Applicant and found it consistent with guidelines adopted by Office of Environmental Health Hazard Assessment (OEHHA), CARB, and CAPCOA. (Ex. 67, p. 5.7-12.)

Dispersion modeling for diesel emissions from fire pump engine testing resulted in a maximum modeled annual impact on the northwest fenceline of the facility. That location has a cancer risk of 0.1 in one million, which is less than Staff's ten

in one million significance level. The area has a very low population density and an actual receptor will have lower risks than the modeled maximum. Since the health risk screening showed that the resulting risks are insignificant, the fire pump engine is exempt from SCAQMD permit requirements. (Ex. 67, p. 5.7-12.)

IEEC will use reclaimed water for cooling. Its design includes wet cooling towers that produce associated drift (water droplets released to the atmosphere). In accordance with California Code of Regulations, Title 22, Section 60306[24], the cooling tower for the facility will have a high efficiency drift eliminator designed to reduce drift to 0.0005 percent of circulating water (cooling water). (Ex. 67, p. 5.1-31; *See* **Air Quality** Condition of Certification **AQ-SC12**.) Section 60306 requires the use of biocides to minimize the growth of Legionella and other micro-organisms in cooling systems using recycled water. Legionella is a type of bacteria that grows in water and causes Legionellosis, otherwise known as Legionnaires' disease. Condition of Certification **Public Health-1** requires the project owner to develop and implement a Cooling Water Management Plan to minimize the potential for bacterial growth in cooling water. (Ex. 67, pp. 5.7-14 to 5.7-16.)

3. Cumulative Impacts

The maximum cancer risk for the IEEC facility is 0.39 in one million, about 3,000 meters south of the proposed site, while the maximum risk from the diesel fire pump is 0.1 in one million. Even at this location, the evidence does not indicate any significant change in lifetime risk to any person, and the increase does not represent any real contribution to the average lifetime cancer risk of 250,000 in one million. Therefore, the evidence of record shows that the incremental impact

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[24] Section 60306 states in pertinent part:

> "c) Whenever a cooling system, using recycled water in conjunction with an air conditioning facility, utilizes a cooling tower or otherwise creates a mist that could come into contact with employees or members of the public, the cooling system shall comply with the following: (1) A drift eliminator shall be used whenever the cooling system is in operation. (2) A chlorine, or other, biocide shall be used to treat the cooling system recirculating water to minimize the growth of Legionella and other micro-organisms."

of the additional risk posed by the IEEC project is not significant or cumulatively considerable. (Ex. 67, pp. 5.7-16 to 5.7-17.)

The worst-case long-term non-cancer health impact from IEEC (0.029 hazard index) is well below the significance level of 1.0 at the location of maximum impact. At this level, cumulative health impacts are not expected to be significant. (*Ibid.)*

FINDINGS AND CONCLUSIONS

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

1. Potential construction-related adverse health effects from contaminated soils, diesel emissions, and fugitive dust will be mitigated to insignificant levels.
2. Normal operation of the project will result in the routine release of criteria and non-criteria pollutants that have the potential to adversely impact public health.
3. Emissions of criteria pollutants, which are discussed in the **Air Quality** section of this Decision, will be mitigated to levels consistent with applicable standards.
4. Applicant performed a health risk assessment (HRA), using well-established scientific protocol, to analyze potential adverse health effects of non-criteria pollutants emitted by IEEC.
5. There are sensitive receptors within a one-mile radius of the project site.
6. The location of the point of maximum chronic health risk hazard is 3,000 meters south of the project site.
7. The HRA indicates that acute and chronic non-cancer health risks from project emissions during construction and operation are below the levels of significance.
8. The HRA indicates that implementation of the required mitigation measures for air toxics will reduce the potential risk of cancer from project emissions to insignificant levels.
9. There is no evidence of cumulative public health impacts from project emissions.

10. Implementation of the Condition of Certification, below, and the Conditions contained in the **Air Quality** section of this Decision will ensure that the project conforms with all applicable laws, ordinances, regulations, and standards (LORS) related to Public Health as identified in the pertinent portion of **Appendix A** in this Decision.

The Commission therefore concludes that with implementation of the Condition of Certification below, project emissions of non-criteria pollutants will not pose a significant direct, indirect, or cumulative adverse public health risk. All other Conditions of Certification that control project emissions are specified in the **Air Quality** section of this Decision.

CONDITION OF CERTIFICATION

Public Health-1 The project owner shall develop and implement a cooling tower Biocide Use, Biofilm Prevention, and Legionella Control Program to ensure that cooling tower bacterial growth is controlled. The program shall be consistent with CEC guidelines or the Cooling Technology Institute guidelines.

Verification: At least 30 days prior to the commencement of cooling tower operations, the project owner shall provide the Biocide Use, Biofilm Prevention, and Legionella Control Program to the CPM for review and approval.

Attachment Air Quality 1 – AQ-SC16, Equipment Description

[Following is a copy of Equipment Description from Addendum to Final Determination of Compliance, filed by SCAQMD, dated April 25, 2003.]

EQUIPMENT DESCRIPTION

Section H of the facility permit: Permit to Construct and temporary Permit to Operate

PROCESS 1: COMBUSTION AND POWER GENERATION **SYSTEM 1: GAS TURBINE COMBUSTION**					
Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
TURBINE, #1, NATURAL GAS, GENERAL ELECTRIC, MODEL 7251FB, COMBINED CYCLE, WITH DRY LOW NOx BURNERS, WITH STEAM INJECTION, 1,813 MMBtu/HR. WITH A/N 391432 GENERATOR, 174 MW GENERATOR, #1, HEAT RECOVERY STEAM GENERATOR (HRSG) STEAM TURBINE GENERATOR, 322 MW COMMON WITH HRSG #2	D1 B11 B13 B15	C17	NOx: MAJOR SOURCE	**NOx**: 2.0 PPMV (4) [RULE 2005 BACT]; NOx: 98.3 PPMV NATURAL GAS (8) [40CFR 60 SUBPART GG]; NOx (INTERIM): 14.03 LBS/MMSCF (1) [RULE 2012]; **CO**: 3.0 PPMV (4) [RULE 1303 BACT]; CO: 4.0 PPMV [RULE 1303 BACT]; CO: 2,000 PPMV (5) [RULE 407]; **ROG**: 2.0 PPMV (4) [RULE 1303-BACT]; **PM**: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; PM: 0.01 GR/SCF (5A) [RULE 475]; **SOx**: 150 PPMV (8) [40CFR 60 SUBPART GG]; SO2: (9) [40CFR 72 – ACID RAIN]; H2S LEVEL IN NATURAL GAS LESS THAN 0.25 GRAIN PER 100 SCF [RULE 1303-OFFSET]	29-1, 29-2, 40-1, 61-1, 63-1, 67-1, 82-1, 82-2, 99-1, 99-2, 99-3, 193-1, 195-1, 195-2, 195-3, 296-1, 327-1
PROCESS 1: COMBUSTION AND POWER GENERATION **SYSTEM 1: GAS TURBINE COMBUSTION**					
Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
BURNER, DUCT, NATURAL GAS, 697 MMBtu/HR, LOCATED IN THE HRSG OF	D14	C17	NOx: MAJOR SOURCE	**NOx**: 2.0 PPMV (4) [RULE 2005 BACT]; NOx: 0.2 LB/ MMBtu NATURAL GAS (8)	29-1, 29-2, 40-1, 61-1, 63-1, 67-1,

TURBINE #1 WITH A/N 391432				[40CFR 60 SUBPART DA]; NOx(INTERIM): 14.03 LBS/MMSCF (1) [RULE 2012]; **CO**: 4.0 PPMV (4) [RULE 1303 BACT]; CO: 2,000 PPMV (5) [RULE 407]; **ROG**: 2.0 PPMV (4) [RULE 1303-BACT]; **PM**: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; PM: 0.01 GR/SCF (5A) [RULE 475]; **SOx**: 0.2 LB/MMBtu (8) [40CFR 60 SUBPART DA]; SO2: (9) [40CFR 72 – ACID RAIN]; H2S LEVEL IN NATURAL GAS LESS THAN 0.25 GRAIN PER 100 SCF [RULE 1303-OFFSET]	82-1, 82-2, 99-1, 99-2, 99-3, 193-1, 195-1, 195-2, 195-3, 296-1, 327-1
CO OXIDATION CATALYST #1, SERVING TURBINE/HRSG #1 A/N 391423	C17	C4, D1, D14			
SELECTIVE CATALYTIC REDUCTION, #1, SERVING TURBINE/HRSG #1 WITH AMMONIA INJECTION, INJECTION GRID A/N:391423	C4 B18	C17		NH3: 5 PPMV (4) [RULE 1303(a)(1)-BACT]	12-1, 12-2, 12-3, 29-3, 179-1,179-2, 195-6, 232-1
STACK, #1 SERVING TURBINE AND HRSG #1, 195' HEIGHT X 18'6" DIAMETER A/N: 391432	S19	C4			
PROCESS 1: COMBUSTION AND POWER GENERATION **SYSTEM 1: GAS TURBINE COMBUSTION**					
Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
TURBINE, #2, NATURAL GAS, GENERAL ELECTRIC, MODEL 7251FB, COMBINED CYCLE, WITH DRY LOW NOx BURNERS, WITH STEAM INJECTION, 1,813 MMBtu/HR.	D2	C18	NOx MAJOR SOURCE	**NOx**: 2.0 PPMV (4) [RULE 2005]; NOx 98.3 PPMV (8) [40CFR 60 SUBPART GG]; NOx(INTERIM): 14.03 LBS/ MMSCF (1) [RULE 2012]; **CO**: 3.0 PPMV (4) [RULE	29-1, 29-2, 40-1, 61-1, 63-1, 67-1, 82-1, 82-2, 99-1, 99-2, 99-3, 193-1, 195-1,

WITH A/N: 391424 GENERATOR, #2, SERVICE TURBINE #2, 174 MW GENERATOR, #2, HEAT RECOVERY STEAM GENERATOR (HRSG) STEAM TURBINE GENERATOR, 322 MW, COMMON WITH HRSG #1	B12 B20 B22 B15			1303 BACT]; CO: 4.0 PPMV [RULE 1303 BACT]; CO: 2,000 PPMV (5) [RULE 407]; **ROG**: 2.0 PPMV (4) [RULE 1303-BACT]; **PM**: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; PM: 0.01 GR/SCF (5A) [RULE 475]; **SOx**: 150 PPMV (8) [40CFR 60 SUBPART GG] SO2: (9) [40CFR 72 – ACID RAIN]; H2S LEVEL IN NATURAL GAS LESS THAN 0.25 GR PER 100 SCF [RULE 1303-OFFSET]	195-2, 195-3, 296-1, 327-1
BURNER, DUCT, NATURAL GAS, 697 MMBtu/HR, LOCATED IN THE HRSG OF TURBINE #2 A/N 391424	D21	C18	NOx: MAJOR SOURCE	**NOx**: 2.0 PPMV (4) [RULE 2005 BACT]; NOx: 0.2 LB/ MMBtu NATURAL GAS (8) [40CFR 60 SUBPART DA]; NOx(INTERIM): 14.03 LBS/ MMSCF (1) [RULE 2012]; **CO**: 4.0 PPMV (4) [RULE 1303 BACT]; CO: 2,000 PPMV (5) [RULE 407]; **ROG**: 2.0 PPMV (4) [RULE 1303-BACT]; **PM**: 0.1 GR/SCF (5) [RULE 409]; PM: 11 LBS/HR (5) [RULE 475]; PM: 0.01 GR/SCF (5A) [RULE 475];	29-1, 29-2, 40-1, 61-1, 63-1, 67-1, 82-1, 82-2, 99-1, 99-2, 99-3, 193-1, 195-1, 195-2, 195-3, 296-1, 327-1
PROCESS 1: COMBUSTION AND POWER GENERATION **SYSTEM 1: GAS TURBINE COMBUSTION**					
Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
				SOx: 0.2 LB/MMBtu (8) [40CFR 60 SUBPART DA]; SO_2: (9) [40CFR 72 – ACID RAIN]; H2S LEVEL IN NATURAL GAS LESS THAN 0.25 GR PER 100 SCF [RULE 1303-OFFSET]	
CO OXIDATION CATALYST #2, SERVING TURBINE/HRSG #2	C18	D2, D21, C5			

A/N 391424					
SELECTIVE CATALYTIC REDUCTION, #2, SERVING TURBINE/HRSG #2, WITH A/N:391425 WITH AMMONIA INJECTION, INJECTION GRID	C5 B25	C18		**NH3**: 5 PPMV (4) [RULE 1303-BACT]	12-1, 12-2, 12-3, 29-3, 179-1, 179-2, 195-6, 232-1
STACK, #2, SERVING TURBINE AND HRSG #2, HEIGHT: 195'0", DIAMETER: 18'6" A/N: 391425	S26	C5			
PROCESS 1: COMBUSTION AND POWER GENERATION **SYSTEM 2: AUXILIARY EQUIPMENT**					
BOILER, AUXILIARY, NATURAL GAS FIRED, 129 MMBtu/HR A/N 391426 BURNER, NATURAL GAS, TBD	D3	C27	NOx MAJOR SOURCE	**NOx**: 7.0 PPMV (4) [RULE 2005 BACT]; NOx: 8.36 LBS/ MMSCF (1) [RULE 2012]; **CO**: 50 PPMV (4) [RULE 1303 BACT]; CO: 2,000 PPMV (5) [RULE 407]; **PM**: 0.1 GR/SCF (5) [RULE 409];	29-4, 40-2, 61-1, 63-2, 82-3, 82-4, 99-4, 193-1, 195-4, 195-5, 296-1
CO OXIDATION CATALYST #3, SERVING AUXILIARY BOILER, A/N 391427	C27	D3, C6			
PROCESS 1: COMBUSTION AND POWER GENERATION **SYSTEM 2: AUXILIARY EQUIPMENT**					
Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
SELECTIVE CATALYTIC REDUCTION, #3, SERVING AUXILIARY BOILER WITH A/N:391427 WITH AMMONIA INJECTION, INJECTION GRID	C6 B25	C27		**NH3**: 5 PPMV (4) [RULE 1303-BACT]	12-1, 12-2, 12-3, 29-3, 179-1, 179-2, 195-7, 232-2
EMERGENCY GENERATOR, NATURAL GAS, IC ENGINE, CATERPILLAR, MODEL G3516LE, 1467 HP A/N 391430	D9		NOx: PROCESS UNIT	**NOx**: 1.5 GM/BHP-HR (4) [RULE 2005]; NOx: 380 LB/MMSCF (1) [RULE 2012]; **CO**: 2.0 GM/BHP-HR (4) [RULE 1303]; ROG: 1.5	1-1, 12-4, 12-5, 67-2,193-1, 296-1

				GM/BHP-HR (4) [RULE 1303];	
EMERGENCY FIRE PUMP, ENGINE, DIESEL, CATERPILLAR, MODEL 3406B, 337 BHP A/N 391431	D10		NOx: PROCESS UNIT	**NOx**: 5.89 GM/BHP-HR (4) [RULE 2005]; NOx: 240 LBS/1000 GAL (1) [RULE 2012]; **CO**: 3.55 GM/BHP-HR (4) [RULE 1303]; ROG: 1.0 GM/BHP-HR (4) [RULE 1303];	1-1, 12-4,12-5, 67-2,193-1, 296-1
PROCESS 2: INORGANIC CHEMICAL STORAGE **SYSTEM 1: AMMONIA STORAGE TANKS**					
STORAGE TANK, ~~SERVING TURBINE #1~~, WITH A VAPOR RETURN LINE, 28% WT AQUEOUS AMMONIA SOLUTION, 16,000 GAL. A/N 391428	D7				144-1, 157-1, 193-1
STORAGE TANK, ~~SERVING TURBINE #2~~, WITH A VAPOR RETURN LINE, 28% WT AQUEOUS AMMONIA SOLUTION, 16,000 GAL. A/N 391429	D8				144-1, 157-1, 193-1
PROCESS 3: RULE 219 EXEMPT EQUIPMENT SUBJECT TO SOURCE-SPECIFIC RULE					
Equipment	ID No.	Connected To	RECLAIM Source Type/ Monitoring Unit	Emissions and Requirements	Conditions
RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, ARCHITECTURE COATINGS	E			ROG: (9) [RULE 1113, 5-4-1999; RULE 1171, 6-13-1997]	67-3
RULE 219 EXEMPT CLEANING EQUIPMENT USING SOLVENTS	E			ROG: (9) [RULE 1171, 6-13-1997]	23-1

C. 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 are designed to protect industrial workers and provide adequate fire protection and emergency response in accordance with all applicable laws, ordinances, regulations, and standards (LORS).

Summary and Discussion of the Evidence

1. Potential Impacts to Worker Safety

During construction and operation, workers may be exposed to chemical spills, hazardous wastes, fires, gas explosions, moving equipment, live electric conductors, confined space entry and egress problems, and exposure to contaminated soils. (Ex. 1, Table 5.14-1; Ex. 67, p. 5.14-4.) Exposure to these hazards can be minimized through adherence to appropriate design criteria and administrative controls, use of personal protective equipment (PPE), and compliance with applicable LORS.[25] (Ex. 1, § 5.14.2.1.)

2. Mitigation Measures

Applicant will develop and implement a "Construction Safety and Health Program" and an "Operation Safety and Health Program," both of which must be reviewed by the appropriate agencies prior to project construction and operation. (Ex. 1, §§ 5.14.2.1; Ex. 67, pp. 5.14-5 et seq.) Separate Injury and Illness Prevention Programs, Personal Protective Equipment Programs, Exposure Monitoring Programs, Emergency Action Plans, Fire Protection and Prevention

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[25] California Occupational Health and Safety Administration (Cal/OSHA) regulations (Cal. Code of Regs., tit. 8, § 1500 et seq.) and other applicable federal, state, and local laws affecting industrial workers are identified in Appendix A of this Decision. (*See* Ex. 67, pp. 5.14-1 through 5.14-3.)

Plans, and other general safety procedures will be prepared for both the construction and operation phases of the project. (*Ibid*.) These comprehensive programs will contain more specific plans dealing with the site and ancillary facilities, such as the Emergency Action Plan, as well as additional programs under the General Industry Safety Orders, Electrical Safety Orders, and Unfired Pressure Vessel Safety Orders. (*Ibid.*) Conditions **Worker Safety-1** and **Worker Safety-2** require the project owner to consult with Cal/OSHA, as appropriate, and the Riverside County Fire Department and/or Rural Fire Protection District to ensure that these programs comply with applicable LORS.

3. Fire Protection and Prevention Plans

The project will include comprehensive on-site fire protection and suppression systems as first line defense in the event of fire. (Ex. 1, § 5.14; Ex. 67, pp. 5.14-9, 5.14-10.) To ensure that the fire protection and suppression systems comply with current standards, the Riverside County Fire Department must approve the project's Construction Fire Protection and Prevention Plan thirty days prior to the start of construction activities. (Ex. 68, pp. 86-87; *See* Condition **Worker Safety-1**.) Condition **Worker Safety-2** requires the project owner to provide a Fire Protection and Prevention Program for review by the Riverside County Fire Department prior to the start of project operation.

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. During construction, an interim fire protection system will be in place. The permanent facility fire protection system will be placed in service as early as possible during the construction phase. (Ex. 67, p. 5.14-9.)

The evidence of record demonstrates that if Applicant follows the fire prevention plan as indicated in the AFC, it will meet the minimum fire protection and

suppression requirements.[26] (Ex. 67, p. 5.14-9.) The fire water supply consists of a minimum of 240,000-gallons in the on-site firewater storage tank. The firewater pumping system consists of three fire pumps, two driven by electric motors and the other by a diesel engine. The fire pumps have a capacity of 2,000 gallons/minute to deliver water to the fire protection water piping network. The fire protection loop will be pressurized with potable water from the Eastern Municipal Water District (EMWD). The evidence shows that this system will provide more than an adequate quantity of fire-fighting water to yard hydrants, hose stations, and water spray and sprinkler systems. (Ex. 67, p. 5.14-9.)

In addition, a carbon dioxide fire protection system will be provided for the combustion turbine generator and accessory equipment, fire detection sensors will be installed, fire hydrants and hose stations will supplement the plant fire protection system, and smoke detectors, combustible gas detectors, and appropriate class of service portable extinguishers will be located throughout the facility at code-approved intervals. (Ex. 67, p. 5.14-10.)

In the event of a major fire, fire support services including trained firefighters and equipment for a sustained response will be required from the Riverside County Fire Department and the California Department of Forestry. Sun City Fire Station No. 7 is the closest station to the project. The response time to the project site is estimated at 2 minutes. (Ex. 67, p. 5.14-4). Menifee Lakes Station, located on the corner of Newport Rd. and Menifee Rd. approximately 7 miles away for the project site, is assigned as the off-site hazardous materials (hazmat) first responder for the IEEC. This station has a hazmat team staffed by five hazmat trained personnel. Their estimated response time is 7 to 10 minutes and they have mutual aid agreements with other teams in the area. (*Ibid*.)

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[26] See Local LORS section of the Final Staff Assessment. (Ex. 67, p. 4.14-3.)

The evidentiary record shows that fire risks at the proposed facility are similar to those of existing facilities in the immediate vicinity and thus pose no significant added demands on local fire protection services. (Ex. 67, p. 5.14-10.)

Staff reviewed the potential for IEEC-related activities to result in cumulative impacts on the fire and emergency response capabilities of the Riverside County Fire Department. (Ex. 67 p. 5.14-10.) The Fire Department indicated that its response time was adequate to meet the needs of an industrial facility that contains advanced on-site fire suppression equipment, such as IEEC. The evidentiary record, therefore, shows that the potential cumulative impacts of this project to the fire and emergency services of the Riverside County Fire Department will be insignificant. (*Ibid.*)

FINDINGS AND CONCLUSIONS

Based on 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 operation phases of the project; each of the programs will include an Injury/Illness Prevention Program, a Personal Protective Equipment Program, an Exposure Monitoring Program, an Emergency Action Plan, a Fire Protection and Prevention Plan, and other general safety procedures.
3. The IEEC will include on-site fire protection and suppression systems for first line defense in the event of fire.
4. The Riverside County Fire Department will provide fire protection and emergency response services to the project.
5. Sun City Fire Station 7 is the assigned first responder to the IEEC with a response time of about 2 minutes.
6. Menifee Lakes Station is the assigned HazMat first responder. The estimated response time is 7-10 minutes.

7. Existing fire and emergency service resources are adequate to meet project needs.
8. The IEEC will not result in cumulative impacts to the Riverside County Fire Department's emergency response capabilities.
9. 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 as identified in the pertinent portion of **Appendix A** of this Decision.

The Commission therefore concludes that implementation of the Conditions of Certification below will reduce potential adverse impacts on the health and safety of industrial workers to levels of insignificance.

CONDITIONS OF CERTIFICATION

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

1. A Construction Injury and Illness Prevention Program
2. A Construction Fire Protection and Prevention Plan
3. A Personal Protective Equipment Program

- The Construction Injury and Illness Prevention Program and the Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, if required, for review and comment concerning compliance of the program with all applicable Safety Orders.
- The Construction Fire Protection and Prevention Plan shall be submitted to the CPM for review and approval and to the Riverside County Fire Department and/or the Rural Fire Protection District for review and comment.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program, the Personal Protective Equipment Program, and the Construction Fire Protection and Prevention Plan, including a copy of the cover letter transmitting the Programs to Cal/OSHA's Consultation Service, if required.

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

1. Operation Injury and Illness Prevention Program
2. Emergency Action Plan
3. Operation Fire Protection Program
4. Personal Protective Equipment Program
    - The Operation Injury and Illness Prevention Program, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, if required, for review and comment concerning compliance of the program with all applicable Safety Orders.
    - The Operation Fire Protection Program and the Emergency Action Plan shall be submitted to the fire protection agency serving the project for review and comment.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operation Safety & Health Program. The document shall incorporate Cal/OSHA's Consultation Service comments, if any, regarding its review and acceptance of the specified elements of the proposed Operation Safety and Health Plan.

The project owner shall notify the CPM that the Project Operation Safety and Health Program, including all records and files on accidents and incidents, are present on site.

D. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Inland Empire Energy Center will create significant impacts to public health and safety resulting from the use, handling, or storage of hazardous materials at the facility. Related issues are addressed in the **Waste Management**, **Public Health, Worker Safety**, and **Traffic and Transportation** portions of this Decision.

Summary and Discussion of the Evidence

Several factors affect the potential for project-related hazardous materials to cause adverse impacts, including local meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors. The evidence of record incorporates these factors in the analysis of potential impacts. (Ex. 1, § 5.12 et seq.; Ex. 67, p. 5.4-5.)

1. Potential Impacts

Staff's Appendix C (Ex. 67, pp. 5.4-30 to 5.4-32), appended to Condition of Certification **HAZ-1** below, lists the hazardous materials that will be used and stored on site including aqueous ammonia, sulfuric acid, and hydrochloric acid which are deemed acutely hazardous. Only two of these materials, aqueous ammonia and sulfuric acid, however, will be used or stored in excess of regulated threshold quantities under the California Accidental Release Prevention (CalARP) Program[27]. (Ex. 67, p. 5.4-1.) The other substance of concern is natural gas, which will be used in large quantities but not stored on site. (Ex. 1, § 5.12-3; Ex. 67, p. 5.4-2.)

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[27] The CalARP Program includes both federal and state programs established to prevent accidental release of regulated toxic and flammable substances. (CA Health & Safety Code, § 25531 et seq.; Cal. Code of Regs., tit. 19, § 2720 et seq.) Regulated substances are those stored or used in amounts exceeding threshold planning quantities (TPQs) that would require the filing of a Risk Management Plan under the CalARP program. (Ex. 1, § 5.12.1.2.)

During the construction phase of the project, the hazardous materials proposed for use include gasoline, diesel fuel, oil, welding gases, lubricants, solvents, and paint. Any impact of spills or other releases of these materials will be limited to the site due to the small quantities involved. Fuels such as mineral oil, lube oil, and diesel fuel are all of very low volatility and represent an insignificant hazard on and off site even in larger quantities. Sulfuric acid, sodium hydroxide, and sodium hypochlorite will be stored on site in small quantities and do not pose a risk of off-site impacts because they have relatively low vapor pressures and spills will be confined to the site. (Ex. 67, pp. 5.4-7 to 5.4-8.) The evidence of record indicates that the potential for accidental spills during transfer from delivery vehicles to storage tanks will be reduced to insignificance by implementation of the Safety and Management Plan required by Condition of Certification **HAZ-3**. (Ex. 67, p. 5.4-16.)

The use of hydrogen gas during the operation phase of the project poses a risk of explosion. A maximum of 126,000 standard cubic feet of hydrogen gas will be stored on site at any one time. (Ex. 1, Table 3.4-7.) At Staff's request, Applicant agreed to relocate the hydrogen storage to the southern portion of the IEEC, thereby increasing its distance from Romoland School. (Ex. 67, p. 5.4-7.) Condition of Certification **HAZ-9** ensures that Applicant stores the hydrogen cylinders out of the plane of the turbines per the clearance requirements of NFPA 50A.

Condition of Certification **HAZ-1** prohibits the project owner from using any hazardous materials not listed in Appendix C or in greater quantities than those identified in Appendix C without prior approval of the Energy Commission's Compliance Project Manager.

a. Aqueous Ammonia

Aqueous ammonia is used in the Selective Catalytic Reduction (SCR) process to control NOx emissions from combustion of natural gas in the facility. The accidental release of aqueous ammonia without proper mitigation can result in very high downwind concentrations of ammonia gas.[28] (Ex. 67, p. 5.4-10.)

Applicant performed an Off-Site Consequences Analysis (OCA) to evaluate potential public health impacts in a "worst case scenario" resulting from a catastrophic failure of the storage tank, as well as an alternative scenario addressing accidental release during truck unloading. (Ex. 4, p. 25 et seq.) Staff considers the threshold significance level to be a one-time exposure to 75 parts per million (ppm) of ammonia gas.[29] (Ex. 67, p. 5.4-11.) The results of the Applicant's accidental release modeling showed that off-site airborne concentrations of ammonia would not exceed the level of 75 ppm at any off-site location. For the worst case scenario, a concentration of less than 1 ppm was predicted to occur at the fence line, a distance of about 100 feet from the aqueous ammonia storage tank. For the alternative scenario, a concentration of 26 ppm was predicted to occur at the fence line, a distance of about 140 feet from the loading area. (Ex. 4, Table 53-3; Ex. 67, p. 5.4-11.)

Two sensitive receptors are located within 1,100 feet of the ammonia storage tank area. (Ex. 67, p. 5.4-5.) The evidence of record shows that modeled airborne concentration of ammonia at the Romoland School would be less than 1 ppm. (Ex. 4, p. 28; Ex. 67, p. 5.4-11.) Based on these modeling results, the evidentiary record establishes that no significant off-site public health

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[28] The choice of aqueous ammonia significantly reduces the risk that is associated with anhydrous ammonia, which is stored as a liquid gas. (Ex. 67, p. 5.5-1.)

[29] Staff's Appendix A, Table 1, replicated at the end of this section, shows the acute ammonia exposure guidelines for different sectors of the population.

consequences would result from an accidental ammonia release. (Ex. 1, p. 8.12-10; Ex. 67, p. 4.4-12.)

Plant workers in the vicinity of the ammonia truck unloading area could be exposed to harmful concentrations of ammonia due to accidental release. The project includes several engineering and administrative controls to reduce the likelihood and consequences of an ammonia release. (Ex. 1, § 5.12.3; Ex. 67, p. 5.4-15.) Aqueous ammonia will be stored in two fixed-roof storage tanks, each storage tank with a nominal 16,000 gallon capacity surrounded by a spill containment wall. The spill containment walls will be designed to contain the volume of a single tank plus an allowance for rainwater from a 25-year, 24-hour storm. (Ex. 2, pp. 5.3-7 to 5.3-8; Ex. 4, p. 26.) Safety features include construction of curbs, berms and/or catchment basins in the hazardous materials storage areas; physical separation of stored chemicals in separate containment areas; the truck pad constructed with a slope designed to drain any spilled material directly into a sump; and process protective systems. (Ex. 67, p. 5.4-15.) Administrative controls include worker training programs, process safety management programs, and compliance with all applicable health and safety laws, ordinances and standards. (*Ibid.)*

To ensure implementation of these design plans, Condition **HAZ-3** requires the project owner to develop and implement a Safety Management Plan for ammonia deliveries. Condition **HAZ-4** requires the ammonia storage tank to be constructed according to industry specifications. The Conditions of Certification in the **Facility Design** section of this Decision require compliance with seismic design specifications for storage facilities. (Ex. 68, p. 56.)

Transportation of aqueous ammonia poses significant risk of exposure in the event of an accidental release on public roads. Staff testified that compliance with the extensive regulatory program that applies to shipment of hazardous materials on California Highways will ensure safe handling in general

transportation.[30] To address the issue of tank truck safety, aqueous ammonia will be delivered to the IEEC site in U.S Department of Transportation (DOT) certified vehicles that meet or exceed the specifications of DOT Code MC-307. These are high integrity tankers designed to haul caustic materials such as ammonia with design capacity of 8,000 gallons. Condition of Certification **HAZ-8** ensures that regardless of which vendor supplies the aqueous ammonia, delivery will be made in a tanker which meets or exceeds the specifications described in the applicable regulations. (Ex. 67, pp. 5.4-12 to 5.4-13.)

Condition **TRANS-7** in the **Traffic and Transportation** section of this Decision requires that appropriate delivery routes will be used. Conditions **HAZ-10** and **HAZ-11** specify delivery routes of hazardous materials and restrict delivery times to when children are not traveling to and from school. (Ex. 5.4-13.)

b. Natural Gas

The project requires large amounts of natural gas. This creates a risk of both fire and explosion. (Ex. 67, p. 5.4-8.) This risk will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices. (*Ibid*.) The National Fire Protection Association (NFPA) Code 85A requires: 1) the use of double block and bleed valves for fast shut-off; 2) automated combustion controls; and 3) burner management systems. These measures significantly reduce the likelihood of an explosion. Additionally, start-up procedures will require air purging of gas turbines and combustion equipment to prevent build-up of an explosive mixture. (*Ibid.*)

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[30] *See* the Federal Hazardous Materials Transportation Act at 49 USC § 5101 et seq, the U.S. Department of Transportation Regulations at 49 CFR Subpart H, § 172-700, and California DMV Regulations on Hazardous Cargo.

Natural gas will not be stored on site; rather, it will be continuously delivered via the project's gas pipeline facilities (described in the **Facility Design** section of this Decision). Since the facility will require the installation of a new gas pipeline off-site, impacts from this pipeline were evaluated. (Ex. 67, p. 5.4-8.)

The design of the gas pipeline is governed by laws and regulations requiring use of high quality arc welding techniques by certified welders and inspection of welds. The gas pipeline will be approximately 0.9 miles in length and will involve the construction and operation of a new compressor station. (Ex. 67, p. 5.4-8.) If a release of gas occurs as a result of pipe, valve, or other mechanical failure or external forces, significant quantities of compressed natural gas could be released rapidly. Such a release can result in a significant fire and/or explosion hazard, which could cause loss of life and/or significant property damage in the vicinity of the pipeline route. However, the probability of such an event is extremely low if the pipeline is constructed according to current standards. Condition of Certification **HAZ-12** ensures compliance with all LORS regarding the construction and operation of the gas pipeline. (Ex. 67, p. 5.4-9.)

2. Site Security

The IEEC will use hazardous materials that have been identified by the U.S. EPA as materials requiring the development and implementation of special site security measures to prevent unauthorized access. (Ex. 67, p. 5.4-16.) To protect that this facility or a shipment of hazardous material against unauthorized access, security measures will include perimeter fencing, guards, alarms, contacting law enforcement in the event of security breach, and fire detection systems. Additional security measures include site personnel background checks and strict control of site access by vendors. (Ex. 67, p. 5.4-7.) General Condition of Certification on Construction and Operations Security Plan **COM-8** requires the preparation of a Vulnerability Assessment and the implementation of Site Security measures consistent with the above-referenced documents. (*Ibid*.)

3. Closure

The requirements for handling hazardous materials remain in effect until such materials are removed from the site. In the event that the project owner abandons the facility in a manner that poses a risk to surrounding populations, emergency action will be coordinated by federal, state, and local agencies to ensure that any unacceptable risk to the public is eliminated. (Ex. 67, p. 5.4-18.)

FINDINGS AND CONCLUSIONS

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

1. The IEEC will use hazardous materials during construction and operation, including acutely hazardous aqueous ammonia, sulfuric acid, hydrochloric acid, and natural gas.
2. The major public health and safety hazards associated with these hazardous materials include the accidental release of aqueous ammonia and fire and explosion from natural gas.
3. The Off-Site Consequences Analysis establishes that no significant offsite public health consequences will result from an accidental ammonia release during the delivery process.
4. Compliance with appropriate engineering and regulatory requirements for safe transportation, delivery, and storage of 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. Potential impacts from the other hazardous substances used on site are not considered significant since quantities will be limited and appropriate storage will be maintained in accordance with applicable law.
7. The project owner will submit an approved Safety Management Plan for handling aqueous ammonia, an approved Hazardous Materials Business Plan, and an approved Risk Management Plan prior to delivery of any hazardous materials to the site.

8. 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 handling hazardous materials.

9. With implementation of the Conditions of Certification, below, the IEEC will comply with all applicable laws, ordinances, regulations, and standards related to hazardous materials management as identified in the evidentiary record and in the pertinent portion of **Appendix A** of this Decision.

The Commission therefore concludes that the use of hazardous materials by the Inland Empire Energy Center will not result in any significant adverse public health and safety impacts.

CONDITIONS OF CERTIFICATION

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

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

HAZ-2 The project owner shall provide a Business Plan to the Certified Unified Program Authority (CUPA) (Riverside County Environmental Health Department) for review and to the CPM for review. The project owner shall also provide a Risk Management Plan (RMP) to the CUPA and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). After receiving comments from the CUPA and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final Business Plan and RMP shall be provided to the CUPA and EPA for information and to the CPM for approval.

Verification: At least 45 days prior to receiving any hazardous material on the site, the project owner shall provide a copy of the final Business Plan to the CPM for approval. At least 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. 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 aqueous ammonia with incompatible hazardous materials.

Verification: At least 30 days prior to the initial delivery of aqueous ammonia 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 facility shall be designed to either the ASME Boiler & Pressure Vessel Code and ANSI K61.1 or to API 620. In either case, a secondary containment basin capable of holding the largest tank volume, plus the volume associated with 24 hours of rain assuming the 25-year storm, shall be provided to contain any releases from the storage tanks.

Verification: At least 30 days prior to the initial delivery of aqueous ammonia to the facility, the project owner shall submit final design drawings and specifications for the ammonia storage tank and secondary containment basin to the CPM for review and approval.

HAZ-5 The project owner shall ensure that no flammable material is stored within 50 feet of the sulfuric acid tank.

Verification: At least 30 days prior to initial receipt of sulfuric acid on-site, the project owner shall provide copies of the facility design drawings showing the location of the sulfuric acid storage tank and the location of any tanks, drums, or piping containing any flammable materials.

HAZ-6 The project owner shall ensure that the gas pipeline undergoes a complete design review and detailed inspection 30 days after initial startup and every 5 years thereafter. Those portions of the natural gas pipeline that are owned by a regulated public utility which is subject to a substantively similar requirement shall not be subject to this condition.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall undertake a full and comprehensive pipeline design review. The project owner shall provide an outline of the pipeline design plan to the CPM for review and approval. The full and complete plan shall be amended, as appropriate, and submitted to the CPM for review and approval not later than one year before the plan is implemented by the project owner.

HAZ-7 After any significant seismic event in the area where surface rupture occurs within one mile of the pipeline, the gas pipeline shall be inspected by the project owner. Those portions of the natural gas pipeline that are owned by a regulated public utility which is subject to a substantively similar requirement shall not be subject to this condition.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide a detailed plan to the CPM for review and approval so that the CPM is assured that a full and comprehensive pipeline inspection will occur in the event of an earthquake. This plan shall be amended, as appropriate, and submitted to the CPM for review and approval at least every five years.

HAZ-8 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 30 days prior to the first 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-9 The project owner shall ensure that the hydrogen gas storage cylinders are stored in an area out of the plane of the turbines and per the clearance requirements of NFPA 50A.

Verification: At least 30 days prior to the first receipt of hydrogen gas on-site, the project owner shall provide copies of the facility design drawings showing the location of the hydrogen gas cylinders and the location of any tanks, drums, or piping containing any combustible or flammable material.

HAZ-10 The project owner shall direct and require all vendors delivering any hazardous material to the site to use only the route approved by the CPM (I-215 to Ethanac Road to Antelope Road and then into the facility). The project owner shall obtain approval of the CPM if an alternate route is desired.

Verification: At least 30 days prior to the first receipt of any hazardous materials on site, the project owner shall submit copies of the required transportation route to the CPM for review and approval.

HAZ-11 The project owner shall direct all vendors carrying any liquid hazardous materials greater than 500 gallons not to deliver during the time in the mornings and afternoons when children are going to and from school. The project owner shall coordinate with any present or future schools near the facility regarding the times when students may be traveling in the transportation route area.

Verification: At least 30 days prior to the first receipt of any hazardous materials on site, the project owner shall submit documentation to the CPM identifying the hours that delivery of hazardous materials may and may not take place.

HAZ-12 The project owner shall ensure that the construction, operation, and maintenance of the natural gas pipeline is done in compliance with Public Utilities Commission General Order 112-E and 58-A standards, and Federal Department of Transportation (DOT) regulations, Title 49, Code of Federal Regulations (CFR), Parts 190, 191, and 192. Those portions of the natural gas pipeline that

are owned by a regulated public utility which is subject to a substantively similar requirement shall not be subject to this condition.

Verification: At least 30 days prior to the construction of the gas pipeline, the project owner shall provide proof that the above regulations will be complied with to the CPM

Appendix A

HAZARDOUS MATERIAL MANAGEMENT
BASIS FOR STAFF'S USE OF 75 PPM AMMONIA EXPOSURE CRITERIA

Staff uses a health-based airborne concentration of 75 PPM to evaluate the significance of impacts associated with potential accidental releases of ammonia. While this level is not consistent with the 150 ppm level used by EPA and Cal/EPA in evaluating such releases pursuant the Federal Risk Management Program and State Accidental Release Program, it is appropriate for use in staff's CEQA analysis. The Federal Risk Management Program and the State Accidental Release Program are administrative programs designed to address emergency planning and ensure that appropriate safety management practices and actions are implemented in response to accidental releases. However, the regulations implementing these programs do not provide clear authority to require design changes or other major changes to a proposed facility. The preface to the Emergency Response Planning Guidelines (ERPGs) states that "these values have been derived as planning and emergency response guidelines, **not** exposure guidelines, they do not contain the safety factors normally incorporated into exposure guidelines. Instead they are estimates, by the committee, of the thresholds above which there would be an unacceptable likelihood of observing the defined effects." It is staff's contention that these values apply to healthy adult individuals and are levels that should not be used to evaluate the acceptability of avoidable exposures for the entire population. While these guidelines are useful in decision making in the event that a release has already occurred (for example, prioritizing evacuations), they are not appropriate for and are not binding on discretionary decisions involving proposed facilities where many options for mitigation are feasible. CEQA requires permitting agencies making discretionary decisions to identify and mitigate potentially significant impacts through changes to the proposed project.

Staff has chosen to use the National Research Council's 30 minute Short Term Public Emergency Limit (STPEL) for ammonia to determine the potential for significant impact. This limit is designed to apply to accidental unanticipated releases and subsequent public exposure. Exposure at this level should not result in serious effects but would result in "strong odor, lacrimation, and irritation of the upper respiratory tract (nose and throat), but no incapacitation or prevention of self-rescue." It is staff's opinion that exposures to concentrations above these levels pose significant risk of adverse health impacts on sensitive members of the general public. It is also staff's position that these exposure limits are the best available criteria to use in gauging the significance of public exposures associated with potential accidental releases. It is, further, staff's opinion that these limits constitute an appropriate balance between public protection and mitigation of unlikely events, and are useful in focusing mitigation efforts on those release scenarios that pose real potential for serious impacts on the public. Table 1 provides a comparison of the intended use and limitations associated with each of the various criteria that staff considered in arriving at the decision to use the 75-ppm STPEL. Appendix B provides a summary of adverse effects, which might be expected to occur at various airborne concentrations of ammonia.

Hazardous Material Management
Appendix A Table 1
Acute Ammonia Exposure Guidelines

Guideline	Responsible Authority	Applicable Exposed Group	Allowable Exposure Level	Allowable* Duration of Exposures	Potential Toxicity at Guideline Level/Intended Purpose of Guideline
IDLH[2]	NIOSH	Workplace standard used to identify appropriate respiratory protection.	300 ppm	30 min.	Exposure above this level requires the use of "highly reliable" respiratory protection and poses the risk of death, serious irreversible injury or impairment of the ability to escape.
IDLH/10[1]	EPA, NIOSH	Work place standard adjusted for general population factor of 10 for variation in sensitivity	30 ppm	30 min.	Protects nearly all segments of general population from irreversible effects
STEL[2]	NIOSH	Adult healthy male workers	35 ppm	15 min. 4 times per 8 hr day	No toxicity, including avoidance of irritation
EEGL[3]	NRC	Adult healthy workers, military personnel	100 ppm	Generally less than 60 min.	Significant irritation but no impact on personnel in performance of emergency work; no irreversible health effects in healthy adults. Emergency conditions one time exposure
STPEL[4]	NRC	Most members of general population	50 ppm 75 ppm 100 ppm	60 min. 30 min. 10 min.	Significant irritation but protects nearly all segments of general population from irreversible acute or late effects. One time accidental exposure
TWA[2]	NIOSH	Adult healthy male workers	25 ppm	8 hr.	No toxicity or irritation on continuous exposure for repeated 8 hr. Work shifts
ERPG-2[5]	AIHA	Applicable only to emergency response planning for the general population (evacuation) (not intended as exposure criteria) (see preface attached)	200 ppm	60 min.	Exposures above this level entail** unacceptable risk of irreversible effects in healthy adult members of the general population (no safety margin)

1) (EPA 1987) 2) (NIOSH 1994) 3) (NRC 1985) 4) (NRC 1972) 5) (AIHA 1989)

* The (NRC 1979), (WHO 1986), and (Henderson and Haggard 1943) all conclude that available data confirm the direct relationship to increases in effect with both increased exposure and increased exposure duration.

** The (NRC 1979) describes a study involving young animals, which suggests greater sensitivity to acute exposure in young animals. The (WHO 1986) warns that the young, elderly, asthmatics, those with bronchitis and those that exercise should also be considered at increased risk based on their demonstrated greater susceptibility to other non-specific irritants

REFERENCES FOR APPENDIX A, TABLE 1

AIHA. 1989. American Industrial Hygienists Association, Emergency Response Planning Guideline, Ammonia, (and Preface) AIHA, Akron, OH.

EPA. 1987. U.S. Environmental Protection Agency, Technical Guidance for Hazards Analysis, EPA, Washington, D.C.

NRC. 1985. National Research Council, Criteria and Methods for Preparing Emergency Exposure Guidance Levels (EEGL), short-term Public Emergency Guidance Level (SPEGL), and Continuous Exposure Guidance Level (CEGL) Documents, NRC, Washington, D.C.

NRC. 1972. Guideline for short-term Exposure of The Public To Air Pollutants. IV. Guide for Ammonia, NRC, Washington, D.C.

NIOSH. 1994. National Institute of Occupational Safety and Health, Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, Washington D.C., Publication numbers 94-116.

WHO. 1986. World health Organization, Environmental Health Criteria 54, Ammonia, WHO, Geneva, Switzerland.

Abbreviations for Appendix A, Table 1

ACGIH, American Conference of Governmental and Industrial Hygienists
AIHA, American Industrial Hygienists Association
EEGL, Emergency Exposure Guidance Level
EPA, Environmental Protection Agency
ERPG, Emergency Response Planning Guidelines
IDLH, Immediately Dangerous to Life and Health Level
NIOSH, National Institute of Occupational Safety and Health
NRC, National Research Council
STEL, Short Term Exposure Limit
STPEL, Short Term Public Emergency Limit
TLV, Threshold Limit Value
WHO, World Health Organization

Appendix B

SUMMARY OF ADVERSE HEALTH EFFECTS OF AMMONIA

638 PPM

WITHIN SECONDS:

Significant adverse health effects;

Might interfere with capability to self rescue;

Reversible effects such as severe eye, nose and throat irritation.

AFTER 30 MINUTES:

Persistent nose and throat irritation even after exposure stopped;

irreversible or long-lasting effects possible: lung injury;

Sensitive people such as the elderly, infants, and those with breathing problems (asthma) experience difficulty in breathing;

asthmatics will experience a worsening of their condition and a decrease in breathing ability, which might impair their ability to move out of area.

266 PPM

WITHIN SECONDS:

Adverse health effects;

Very strong odor of ammonia;

Reversible moderate eye, nose and throat irritation.

AFTER 30 MINUTES:

Some decrease in breathing ability but doubtful that any effect would persist after exposure stopped;

Sensitive persons: experience difficulty in breathing;

asthmatics: may have a worsening condition and decreased breathing ability, which might impair their ability to move out of the area.

64 PPM

WITHIN SECONDS:

Most people would notice a strong odor;

Tearing of the eyes would occur;

Odor would be very noticeable and uncomfortable.

Sensitive people could experience more irritation but it would be unlikely that breathing would be impaired to the point of interfering with capability of self rescue

Mild eye, nose, or throat irritation

Eye, ear, & throat irritation in sensitive people

asthmatics might have breathing difficulties but would not impair capability of self rescue

22 or 27 PPM

WITHIN SECONDS:

Most people would notice an odor;

No tearing of the eyes would occur;

Odor might be uncomfortable for some;

sensitive people may experience some irritation but ability to leave area would not be impaired;

Slight irritation after 10 minutes in some people.

4.0, 2.2, or 1.6 PPM

No adverse effects would be expected to occur;

doubtful that anyone would notice any ammonia (odor threshold 5 - 20 PPM);

Some people might experience irritation after 1 hr.

Appendix C
Ex. 1, Table 3.4-7 Chemical Inventory – Project Operation

	Chemical Name	CAS[a] Number	Maximum Quantity Onsite	Hazardous Characteristics	RQ[b] (lb)	TPQ[c] (lb)	TQ[d] (lb)	Prop 65[e]
Acutely Hazardous Materials								
Aqueous ammonia 28%	Ammonia	7664-41-7	32,000 gal+-. At 55.5lbs/cf, this corresponds to 237,433 lbs of 28% solution or 66,481 lbs of actual ammonia.	Corrosive Volatile	100	500	10,000/500	No
Hydrogen gas	Hydrogen	1333-74-0	126,000 ft^3 (approximately 665 lbs.)	Extremely flammable, explosive	N/A	N/A	10,000	No
Hazardous Materials								
Stabilized bromine (e.g. NALCO Stabrex ST70)	Bromine, sodium hydroxide mixture	1310-73-2	2,000 gal. (approximately 22,600 lbs.)	CorrosiveOxidizer	35,000	10,000	N/A	No
Sulfuric acid 93%	Sulfuric acid	7664-93-9	16,000 gal. (approximately 239,900 lbs.)	Corrosive	1,000	1,000	N/A	No
Sulfuric acid 29.5%	Sulfuric acid	7664-93-9	1,500 gal. (approximately 15,000 lbs.)	Corrosive	1,000	1,000	N/A	No
Hydrochloric acid <37%	Hydrochloric acid	7647-01-0	Brought onsite for HRSG cleaning by cleaning contractor; small quantity continuously onsite; (approximately 10,000 lbs)	Corrosive	5,000[g]	10,000[g]	15,000[g]	No
Sodium Bromide	Sodium Bromide	7647156	2,000 gal. (approximately 53,360 lbs.)	Irritant				
Polyacrylate	Polyacrylate	Various	3,000 gal.		f	f	f	No
Sodium Hypochlorite NaOCl	Sodium Hypochlorite	7681-52-9	8,000 gal. (approximately 70,630 lbs.)	Corrosive	100	f	f	No
Tri-sodium phosphate, disodium phosphate, and sodium hexameta phosphate	Tri-sodium phosphate, disodium phosphate, and sodium hexameta phosphate	7601-54-9 7558-79-4	800 gals (200-400 gal totes) (approximately 10,800 lbs.)	Toxic	5000	f	f	No
Neutralizing amines Nalco 356, Nalco Triact 1800	Cyclohexylamine, and others	108-91-8 Various	800 gal. (200-400 gal totes) (approximately 6,640 lbs.)	Corrosive	10000	10000	10000	No
Oxygen Scavenner Nalco Elimin-Ox	Carbohydrazide	497-18-7	800 gal. (200-400 gal totes) (approximately 6,880 lbs.)	Non-Hazardous	f	f	f	No
Aluminum sulfate, sodium aluminate, or polyaluminum chloride	Aluminum sulfate	10043-01-3	3,000 gal. (approximately 42,480 lbs.)	Toxic	5000	f	f	No

	Chemical Name	CAS[a] Number	Maximum Quantity Onsite	Hazardous Characteristics	RQ[b] (lb)	TPQ[c] (lb)	TQ[d] (lb)	Prop 65[e]
Ferric chloride	Ferric chloride	7705-08-0	3,000 gal. (approximately 69,970 lbs.)	Corrosive	1000	f	f	No
Coagulant aid polymer, Nalco NalcoLyte 8799	Poly-quarternaryamine	20507700000 -5062P	800 gal. (200-400 gal totes) (approximately 7,120 lbs.)	Irritant	f	f	f	No
Phosphonate, Nalco 7385	2-Phosphono-124 Butanetricarboxylic acid (45-50%)	37971-36-1	800 gal. (200-400 gal totes) (approximately 8,640 lbs.)	Irritant	f	f	f	No
Calgon Memclean C			200 gal.					
Filteraid-cationic, anionic, or non-ionic type polymer soln., Nalco NalClear	Hydro-treated light distillate, C10-16 alcohols	64742-47-8 68002-97-1	800 gal. (200-400 gal totes) (approximately 5,400 lbs.)	Irritant	f	f	f	No
Sulfur Hexafluoride	Sulfur Hexafluoride	2551-62-4	200 lbs.	Hazardous	f	f	f	No
Ammonium bifluoride	Ammonium bifluoride	1341-49-7	Brought onsite only for HRSG cleaning by cleaning contractor; 200 lbs	Corrosive	N/A	10,000	N/A	No
Citric acid	Citric acid	77-92-9	Brought onsite for HRSG cleaning by cleaning contractor; small quantity continuously onsite; 100 lbs	Corrosive	N/A	10,000	N/A	No
Sodium carbonate (soda ash)	Sodium Carbonate	497-19-8	500 lbs. (50-100 lb. bags)	Corrosive	f	f	f	No
Sodium nitrate	Sodium Nitrate	7631-99-4	500 lbs. (50-100 lb. Bags)	Corrosive	f	f	f	No
Hydroxyacetic acid	Gyrolic acid	None	1000 lbs. (50-200 lb. Bags)	Corrosive	f	f	f	No
Formic acid	Formic acid	64-18-6	600 lbs. (50-100 lb. Bags)	Corrosive	5000	f	f	No
Sodium hydroxide	Sodium hydroxide	1310-73-2	8,000 gal. (approximately 88,000 lbs.)	Corrosive	1,000	10,000	N/A	No
Sodium bisulfite (40-70%)	Sodium bisulfite (40-70%)	7631-90-5	800 gal. (approximately 6,930 lbs.)	Corrosive	N/A	5,000	10,000	No
Non – Oxidizing Biocide (NALCO 7330)	Isothiazolin / DDNPA	Contains: 26172-55-4 2682-20-4	800 gal. (approximately 6,880 lbs.)	Corrosive	N/A	10,000	N/A	No
Antifreeze	Ethylene Glycol / Propylene Glycol 30-50%	107-21-1 6423-43-4	165 gal. (approximately 1,480 lbs.)	Combustible	5,000	10,000	N/A	No
Sodium Nitrite	Sodium Nitrite	7632-00-0	500 lbs.	Oxidizer	100	10,000	N/A	No
Various laboratory reagents	N/A	N/A	10 gal. (approximately 80 lbs.)	Various	N/A	10,000	N/A	N/A

	Chemical Name	CAS[a] Number	Maximum Quantity Onsite	Hazardous Characteristics	RQ[b] (lb)	TPQ[c] (lb)	TQ[d] (lb)	Prop 65[e]
Various cleaning chemicals/detergents	N/A	N/A	100 gal. (approximately 830 lbs.)	Toxic	f	f	f	No
Carbon dioxide, liquid	Carbon dioxide	124-38-9	20,000 lbs.	Contact hazard	N/A	10,000	N/A	No
Nitrogen gas	Nitrogen	7727-37-9	150 lbs. (50 lb. Bottles)	Negligible	N/A	10,000	N/A	No
Lubricating oil	Mixture	N/A	20,000 gal. (approximately 150,270 lbs.)	Combustible	N/A	10,000	N/A	Yes
Hydraulic oil	Mixture	N/A	600 gal. (approximately 4,350 lbs.)	Combustible	N/A	10,000	N/A	Yes
Mineral insulating oil	Mixture	N/A	100,000 gal. (approximately 684,720 lbs.)	Combustible	N/A	10,000	N/A	Yes
Diesel fuel	Mixture	N/A	500 gal. (approximately 3,500 lbs.)	Combustible	N/A	10,000	N/A	Yes
Natural gas	Mixture	N/A	Via pipeline	Flammable	N/A	10,000	N/A	Yes

[a] Chemical Abstract Service.

[b] Reportable Quantity per CERCLA. Release equal to or greater than RQ must be reported. Under California law, any amount that has a realistic potential to adversely affect the environment or human health or safety must be reported.

[c] Threshold Planning Quantity. If quantities of acutely hazardous materials equal to or greater than TPQ are handled or stored, must register with local Administering Agency. For hazardous materials, the TPQ is 10,000 lb.

[d] Federal and state thresholds for RMP reporting.

[e] Chemicals known to the state of California to cause cancer or reproductive toxicity.

[f] No reporting requirement.

C. 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 are designed to protect industrial workers and provide adequate fire protection and emergency response in accordance with all applicable laws, ordinances, regulations, and standards (LORS).

Summary and Discussion of the Evidence

1. Potential Impacts to Worker Safety

During construction and operation, workers may be exposed to chemical spills, hazardous wastes, fires, gas explosions, moving equipment, live electric conductors, confined space entry and egress problems, and exposure to contaminated soils. (Ex. 1, Table 5.14-1; Ex. 67, p. 5.14-4.) Exposure to these hazards can be minimized through adherence to appropriate design criteria and administrative controls, use of personal protective equipment (PPE), and compliance with applicable LORS.[25] (Ex. 1, § 5.14.2.1.)

2. Mitigation Measures

Applicant will develop and implement a "Construction Safety and Health Program" and an "Operation Safety and Health Program," both of which must be reviewed by the appropriate agencies prior to project construction and operation. (Ex. 1, §§ 5.14.2.1; Ex. 67, pp. 5.14-5 et seq.) Separate Injury and Illness Prevention Programs, Personal Protective Equipment Programs, Exposure Monitoring Programs, Emergency Action Plans, Fire Protection and Prevention

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[25] California Occupational Health and Safety Administration (Cal/OSHA) regulations (Cal. Code of Regs., tit. 8, § 1500 et seq.) and other applicable federal, state, and local laws affecting industrial workers are identified in Appendix A of this Decision. (*See* Ex. 67, pp. 5.14-1 through 5.14-3.)

Plans, and other general safety procedures will be prepared for both the construction and operation phases of the project. (*Ibid*.) These comprehensive programs will contain more specific plans dealing with the site and ancillary facilities, such as the Emergency Action Plan, as well as additional programs under the General Industry Safety Orders, Electrical Safety Orders, and Unfired Pressure Vessel Safety Orders. (*Ibid.*) Conditions **Worker Safety-1** and **Worker Safety-2** require the project owner to consult with Cal/OSHA, as appropriate, and the Riverside County Fire Department and/or Rural Fire Protection District to ensure that these programs comply with applicable LORS.

3. Fire Protection and Prevention Plans

The project will include comprehensive on-site fire protection and suppression systems as first line defense in the event of fire. (Ex. 1, § 5.14; Ex. 67, pp. 5.14-9, 5.14-10.) To ensure that the fire protection and suppression systems comply with current standards, the Riverside County Fire Department must approve the project's Construction Fire Protection and Prevention Plan thirty days prior to the start of construction activities. (Ex. 68, pp. 86-87; *See* Condition **Worker Safety-1**.) Condition **Worker Safety-2** requires the project owner to provide a Fire Protection and Prevention Program for review by the Riverside County Fire Department prior to the start of project operation.

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. During construction, an interim fire protection system will be in place. The permanent facility fire protection system will be placed in service as early as possible during the construction phase. (Ex. 67, p. 5.14-9.)

The evidence of record demonstrates that if Applicant follows the fire prevention plan as indicated in the AFC, it will meet the minimum fire protection and

suppression requirements.[26] (Ex. 67, p. 5.14-9.) The fire water supply consists of a minimum of 240,000-gallons in the on-site firewater storage tank. The firewater pumping system consists of three fire pumps, two driven by electric motors and the other by a diesel engine. The fire pumps have a capacity of 2,000 gallons/minute to deliver water to the fire protection water piping network. The fire protection loop will be pressurized with potable water from the Eastern Municipal Water District (EMWD). The evidence shows that this system will provide more than an adequate quantity of fire-fighting water to yard hydrants, hose stations, and water spray and sprinkler systems. (Ex. 67, p. 5.14-9.)

In addition, a carbon dioxide fire protection system will be provided for the combustion turbine generator and accessory equipment, fire detection sensors will be installed, fire hydrants and hose stations will supplement the plant fire protection system, and smoke detectors, combustible gas detectors, and appropriate class of service portable extinguishers will be located throughout the facility at code-approved intervals. (Ex. 67, p. 5.14-10.)

In the event of a major fire, fire support services including trained firefighters and equipment for a sustained response will be required from the Riverside County Fire Department and the California Department of Forestry. Sun City Fire Station No. 7 is the closest station to the project. The response time to the project site is estimated at 2 minutes. (Ex. 67, p. 5.14-4). Menifee Lakes Station, located on the corner of Newport Rd. and Menifee Rd. approximately 7 miles away for the project site, is assigned as the off-site hazardous materials (hazmat) first responder for the IEEC. This station has a hazmat team staffed by five hazmat trained personnel. Their estimated response time is 7 to 10 minutes and they have mutual aid agreements with other teams in the area. (*Ibid*.)

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[26] See Local LORS section of the Final Staff Assessment. (Ex. 67, p. 4.14-3.)

The evidentiary record shows that fire risks at the proposed facility are similar to those of existing facilities in the immediate vicinity and thus pose no significant added demands on local fire protection services. (Ex. 67, p. 5.14-10.)

Staff reviewed the potential for IEEC-related activities to result in cumulative impacts on the fire and emergency response capabilities of the Riverside County Fire Department. (Ex. 67 p. 5.14-10.) The Fire Department indicated that its response time was adequate to meet the needs of an industrial facility that contains advanced on-site fire suppression equipment, such as IEEC. The evidentiary record, therefore, shows that the potential cumulative impacts of this project to the fire and emergency services of the Riverside County Fire Department will be insignificant. (*Ibid.*)

FINDINGS AND CONCLUSIONS

Based on 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 operation phases of the project; each of the programs will include an Injury/Illness Prevention Program, a Personal Protective Equipment Program, an Exposure Monitoring Program, an Emergency Action Plan, a Fire Protection and Prevention Plan, and other general safety procedures.
3. The IEEC will include on-site fire protection and suppression systems for first line defense in the event of fire.
4. The Riverside County Fire Department will provide fire protection and emergency response services to the project.
5. Sun City Fire Station 7 is the assigned first responder to the IEEC with a response time of about 2 minutes.
6. Menifee Lakes Station is the assigned HazMat first responder. The estimated response time is 7-10 minutes.

7. Existing fire and emergency service resources are adequate to meet project needs.
8. The IEEC will not result in cumulative impacts to the Riverside County Fire Department's emergency response capabilities.
9. 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 as identified in the pertinent portion of **Appendix A** of this Decision.

The Commission therefore concludes that implementation of the Conditions of Certification below will reduce potential adverse impacts on the health and safety of industrial workers to levels of insignificance.

CONDITIONS OF CERTIFICATION

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

1. A Construction Injury and Illness Prevention Program
2. A Construction Fire Protection and Prevention Plan
3. A Personal Protective Equipment Program

- The Construction Injury and Illness Prevention Program and the Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, if required, for review and comment concerning compliance of the program with all applicable Safety Orders.
- The Construction Fire Protection and Prevention Plan shall be submitted to the CPM for review and approval and to the Riverside County Fire Department and/or the Rural Fire Protection District for review and comment.

Verification: At least 30 days prior to the start of construction, the project owner shall submit to the CPM a copy of the Project Construction Safety and Health Program, the Personal Protective Equipment Program, and the Construction Fire Protection and Prevention Plan, including a copy of the cover letter transmitting the Programs to Cal/OSHA's Consultation Service, if required.

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

1. Operation Injury and Illness Prevention Program
2. Emergency Action Plan
3. Operation Fire Protection Program
4. Personal Protective Equipment Program
    - The Operation Injury and Illness Prevention Program, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) Consultation Service, if required, for review and comment concerning compliance of the program with all applicable Safety Orders.
    - The Operation Fire Protection Program and the Emergency Action Plan shall be submitted to the fire protection agency serving the project for review and comment.

Verification: At least 30 days prior to the start of operation, the project owner shall submit to the CPM a copy of the final version of the Project Operation Safety & Health Program. The document shall incorporate Cal/OSHA's Consultation Service comments, if any, regarding its review and acceptance of the specified elements of the proposed Operation Safety and Health Plan.

The project owner shall notify the CPM that the Project Operation Safety and Health Program, including all records and files on accidents and incidents, are present on site.

D. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Inland Empire Energy Center will create significant impacts to public health and safety resulting from the use, handling, or storage of hazardous materials at the facility. Related issues are addressed in the **Waste Management**, **Public Health, Worker Safety**, and **Traffic and Transportation** portions of this Decision.

Summary and Discussion of the Evidence

Several factors affect the potential for project-related hazardous materials to cause adverse impacts, including local meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors. The evidence of record incorporates these factors in the analysis of potential impacts. (Ex. 1, § 5.12 et seq.; Ex. 67, p. 5.4-5.)

1. Potential Impacts

Staff's Appendix C (Ex. 67, pp. 5.4-30 to 5.4-32), appended to Condition of Certification **HAZ-1** below, lists the hazardous materials that will be used and stored on site including aqueous ammonia, sulfuric acid, and hydrochloric acid which are deemed acutely hazardous. Only two of these materials, aqueous ammonia and sulfuric acid, however, will be used or stored in excess of regulated threshold quantities under the California Accidental Release Prevention (CalARP) Program[27]. (Ex. 67, p. 5.4-1.) The other substance of concern is natural gas, which will be used in large quantities but not stored on site. (Ex. 1, § 5.12-3; Ex. 67, p. 5.4-2.)

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[27] The CalARP Program includes both federal and state programs established to prevent accidental release of regulated toxic and flammable substances. (CA Health & Safety Code, § 25531 et seq.; Cal. Code of Regs., tit. 19, § 2720 et seq.) Regulated substances are those stored or used in amounts exceeding threshold planning quantities (TPQs) that would require the filing of a Risk Management Plan under the CalARP program. (Ex. 1, § 5.12.1.2.)

During the construction phase of the project, the hazardous materials proposed for use include gasoline, diesel fuel, oil, welding gases, lubricants, solvents, and paint. Any impact of spills or other releases of these materials will be limited to the site due to the small quantities involved. Fuels such as mineral oil, lube oil, and diesel fuel are all of very low volatility and represent an insignificant hazard on and off site even in larger quantities. Sulfuric acid, sodium hydroxide, and sodium hypochlorite will be stored on site in small quantities and do not pose a risk of off-site impacts because they have relatively low vapor pressures and spills will be confined to the site. (Ex. 67, pp. 5.4-7 to 5.4-8.) The evidence of record indicates that the potential for accidental spills during transfer from delivery vehicles to storage tanks will be reduced to insignificance by implementation of the Safety and Management Plan required by Condition of Certification **HAZ-3**. (Ex. 67, p. 5.4-16.)

The use of hydrogen gas during the operation phase of the project poses a risk of explosion. A maximum of 126,000 standard cubic feet of hydrogen gas will be stored on site at any one time. (Ex. 1, Table 3.4-7.) At Staff's request, Applicant agreed to relocate the hydrogen storage to the southern portion of the IEEC, thereby increasing its distance from Romoland School. (Ex. 67, p. 5.4-7.) Condition of Certification **HAZ-9** ensures that Applicant stores the hydrogen cylinders out of the plane of the turbines per the clearance requirements of NFPA 50A.

Condition of Certification **HAZ-1** prohibits the project owner from using any hazardous materials not listed in Appendix C or in greater quantities than those identified in Appendix C without prior approval of the Energy Commission's Compliance Project Manager.

a. Aqueous Ammonia

Aqueous ammonia is used in the Selective Catalytic Reduction (SCR) process to control NOx emissions from combustion of natural gas in the facility. The accidental release of aqueous ammonia without proper mitigation can result in very high downwind concentrations of ammonia gas.[28] (Ex. 67, p. 5.4-10.)

Applicant performed an Off-Site Consequences Analysis (OCA) to evaluate potential public health impacts in a "worst case scenario" resulting from a catastrophic failure of the storage tank, as well as an alternative scenario addressing accidental release during truck unloading. (Ex. 4, p. 25 et seq.) Staff considers the threshold significance level to be a one-time exposure to 75 parts per million (ppm) of ammonia gas.[29] (Ex. 67, p. 5.4-11.) The results of the Applicant's accidental release modeling showed that off-site airborne concentrations of ammonia would not exceed the level of 75 ppm at any off-site location. For the worst case scenario, a concentration of less than 1 ppm was predicted to occur at the fence line, a distance of about 100 feet from the aqueous ammonia storage tank. For the alternative scenario, a concentration of 26 ppm was predicted to occur at the fence line, a distance of about 140 feet from the loading area. (Ex. 4, Table 53-3; Ex. 67, p. 5.4-11.)

Two sensitive receptors are located within 1,100 feet of the ammonia storage tank area. (Ex. 67, p. 5.4-5.) The evidence of record shows that modeled airborne concentration of ammonia at the Romoland School would be less than 1 ppm. (Ex. 4, p. 28; Ex. 67, p. 5.4-11.) Based on these modeling results, the evidentiary record establishes that no significant off-site public health

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[28] The choice of aqueous ammonia significantly reduces the risk that is associated with anhydrous ammonia, which is stored as a liquid gas. (Ex. 67, p. 5.5-1.)

[29] Staff's Appendix A, Table 1, replicated at the end of this section, shows the acute ammonia exposure guidelines for different sectors of the population.

consequences would result from an accidental ammonia release. (Ex. 1, p. 8.12-10; Ex. 67, p. 4.4-12.)

Plant workers in the vicinity of the ammonia truck unloading area could be exposed to harmful concentrations of ammonia due to accidental release. The project includes several engineering and administrative controls to reduce the likelihood and consequences of an ammonia release. (Ex. 1, § 5.12.3; Ex. 67, p. 5.4-15.) Aqueous ammonia will be stored in two fixed-roof storage tanks, each storage tank with a nominal 16,000 gallon capacity surrounded by a spill containment wall. The spill containment walls will be designed to contain the volume of a single tank plus an allowance for rainwater from a 25-year, 24-hour storm. (Ex. 2, pp. 5.3-7 to 5.3-8; Ex. 4, p. 26.) Safety features include construction of curbs, berms and/or catchment basins in the hazardous materials storage areas; physical separation of stored chemicals in separate containment areas; the truck pad constructed with a slope designed to drain any spilled material directly into a sump; and process protective systems. (Ex. 67, p. 5.4-15.) Administrative controls include worker training programs, process safety management programs, and compliance with all applicable health and safety laws, ordinances and standards. (*Ibid.)*

To ensure implementation of these design plans, Condition **HAZ-3** requires the project owner to develop and implement a Safety Management Plan for ammonia deliveries. Condition **HAZ-4** requires the ammonia storage tank to be constructed according to industry specifications. The Conditions of Certification in the **Facility Design** section of this Decision require compliance with seismic design specifications for storage facilities. (Ex. 68, p. 56.)

Transportation of aqueous ammonia poses significant risk of exposure in the event of an accidental release on public roads. Staff testified that compliance with the extensive regulatory program that applies to shipment of hazardous materials on California Highways will ensure safe handling in general

transportation.[30] To address the issue of tank truck safety, aqueous ammonia will be delivered to the IEEC site in U.S Department of Transportation (DOT) certified vehicles that meet or exceed the specifications of DOT Code MC-307. These are high integrity tankers designed to haul caustic materials such as ammonia with design capacity of 8,000 gallons. Condition of Certification **HAZ-8** ensures that regardless of which vendor supplies the aqueous ammonia, delivery will be made in a tanker which meets or exceeds the specifications described in the applicable regulations. (Ex. 67, pp. 5.4-12 to 5.4-13.)

Condition **TRANS-7** in the **Traffic and Transportation** section of this Decision requires that appropriate delivery routes will be used. Conditions **HAZ-10** and **HAZ-11** specify delivery routes of hazardous materials and restrict delivery times to when children are not traveling to and from school. (Ex. 5.4-13.)

b. Natural Gas

The project requires large amounts of natural gas. This creates a risk of both fire and explosion. (Ex. 67, p. 5.4-8.) This risk will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices. (*Ibid*.) The National Fire Protection Association (NFPA) Code 85A requires: 1) the use of double block and bleed valves for fast shut-off; 2) automated combustion controls; and 3) burner management systems. These measures significantly reduce the likelihood of an explosion. Additionally, start-up procedures will require air purging of gas turbines and combustion equipment to prevent build-up of an explosive mixture. (*Ibid.*)

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[30] *See* the Federal Hazardous Materials Transportation Act at 49 USC § 5101 et seq, the U.S. Department of Transportation Regulations at 49 CFR Subpart H, § 172-700, and California DMV Regulations on Hazardous Cargo.

Natural gas will not be stored on site; rather, it will be continuously delivered via the project's gas pipeline facilities (described in the **Facility Design** section of this Decision). Since the facility will require the installation of a new gas pipeline off-site, impacts from this pipeline were evaluated. (Ex. 67, p. 5.4-8.)

The design of the gas pipeline is governed by laws and regulations requiring use of high quality arc welding techniques by certified welders and inspection of welds. The gas pipeline will be approximately 0.9 miles in length and will involve the construction and operation of a new compressor station. (Ex. 67, p. 5.4-8.) If a release of gas occurs as a result of pipe, valve, or other mechanical failure or external forces, significant quantities of compressed natural gas could be released rapidly. Such a release can result in a significant fire and/or explosion hazard, which could cause loss of life and/or significant property damage in the vicinity of the pipeline route. However, the probability of such an event is extremely low if the pipeline is constructed according to current standards. Condition of Certification **HAZ-12** ensures compliance with all LORS regarding the construction and operation of the gas pipeline. (Ex. 67, p. 5.4-9.)

2. Site Security

The IEEC will use hazardous materials that have been identified by the U.S. EPA as materials requiring the development and implementation of special site security measures to prevent unauthorized access. (Ex. 67, p. 5.4-16.) To protect that this facility or a shipment of hazardous material against unauthorized access, security measures will include perimeter fencing, guards, alarms, contacting law enforcement in the event of security breach, and fire detection systems. Additional security measures include site personnel background checks and strict control of site access by vendors. (Ex. 67, p. 5.4-7.) General Condition of Certification on Construction and Operations Security Plan **COM-8** requires the preparation of a Vulnerability Assessment and the implementation of Site Security measures consistent with the above-referenced documents. (*Ibid*.)

3. Closure

The requirements for handling hazardous materials remain in effect until such materials are removed from the site. In the event that the project owner abandons the facility in a manner that poses a risk to surrounding populations, emergency action will be coordinated by federal, state, and local agencies to ensure that any unacceptable risk to the public is eliminated. (Ex. 67, p. 5.4-18.)

FINDINGS AND CONCLUSIONS

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

1. The IEEC will use hazardous materials during construction and operation, including acutely hazardous aqueous ammonia, sulfuric acid, hydrochloric acid, and natural gas.
2. The major public health and safety hazards associated with these hazardous materials include the accidental release of aqueous ammonia and fire and explosion from natural gas.
3. The Off-Site Consequences Analysis establishes that no significant offsite public health consequences will result from an accidental ammonia release during the delivery process.
4. Compliance with appropriate engineering and regulatory requirements for safe transportation, delivery, and storage of 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. Potential impacts from the other hazardous substances used on site are not considered significant since quantities will be limited and appropriate storage will be maintained in accordance with applicable law.
7. The project owner will submit an approved Safety Management Plan for handling aqueous ammonia, an approved Hazardous Materials Business Plan, and an approved Risk Management Plan prior to delivery of any hazardous materials to the site.

8. 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 handling hazardous materials.

9. With implementation of the Conditions of Certification, below, the IEEC will comply with all applicable laws, ordinances, regulations, and standards related to hazardous materials management as identified in the evidentiary record and in the pertinent portion of **Appendix A** of this Decision.

The Commission therefore concludes that the use of hazardous materials by the Inland Empire Energy Center will not result in any significant adverse public health and safety impacts.

CONDITIONS OF CERTIFICATION

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

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

HAZ-2 The project owner shall provide a Business Plan to the Certified Unified Program Authority (CUPA) (Riverside County Environmental Health Department) for review and to the CPM for review. The project owner shall also provide a Risk Management Plan (RMP) to the CUPA and the CPM for review at the time the RMP is first submitted to the U.S. Environmental Protection Agency (EPA). After receiving comments from the CUPA and the CPM, the project owner shall reflect all recommendations in the final documents. Copies of the final Business Plan and RMP shall be provided to the CUPA and EPA for information and to the CPM for approval.

Verification: At least 45 days prior to receiving any hazardous material on the site, the project owner shall provide a copy of the final Business Plan to the CPM for approval. At least 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. 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 aqueous ammonia with incompatible hazardous materials.

Verification: At least 30 days prior to the initial delivery of aqueous ammonia 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 facility shall be designed to either the ASME Boiler & Pressure Vessel Code and ANSI K61.1 or to API 620. In either case, a secondary containment basin capable of holding the largest tank volume, plus the volume associated with 24 hours of rain assuming the 25-year storm, shall be provided to contain any releases from the storage tanks.

Verification: At least 30 days prior to the initial delivery of aqueous ammonia to the facility, the project owner shall submit final design drawings and specifications for the ammonia storage tank and secondary containment basin to the CPM for review and approval.

HAZ-5 The project owner shall ensure that no flammable material is stored within 50 feet of the sulfuric acid tank.

Verification: At least 30 days prior to initial receipt of sulfuric acid on-site, the project owner shall provide copies of the facility design drawings showing the location of the sulfuric acid storage tank and the location of any tanks, drums, or piping containing any flammable materials.

HAZ-6 The project owner shall ensure that the gas pipeline undergoes a complete design review and detailed inspection 30 days after initial startup and every 5 years thereafter. Those portions of the natural gas pipeline that are owned by a regulated public utility which is subject to a substantively similar requirement shall not be subject to this condition.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall undertake a full and comprehensive pipeline design review. The project owner shall provide an outline of the pipeline design plan to the CPM for review and approval. The full and complete plan shall be amended, as appropriate, and submitted to the CPM for review and approval not later than one year before the plan is implemented by the project owner.

HAZ-7 After any significant seismic event in the area where surface rupture occurs within one mile of the pipeline, the gas pipeline shall be inspected by the project owner. Those portions of the natural gas pipeline that are owned by a regulated public utility which is subject to a substantively similar requirement shall not be subject to this condition.

Verification: At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide a detailed plan to the CPM for review and approval so that the CPM is assured that a full and comprehensive pipeline inspection will occur in the event of an earthquake. This plan shall be amended, as appropriate, and submitted to the CPM for review and approval at least every five years.

HAZ-8 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 30 days prior to the first 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-9 The project owner shall ensure that the hydrogen gas storage cylinders are stored in an area out of the plane of the turbines and per the clearance requirements of NFPA 50A.

Verification: At least 30 days prior to the first receipt of hydrogen gas on-site, the project owner shall provide copies of the facility design drawings showing the location of the hydrogen gas cylinders and the location of any tanks, drums, or piping containing any combustible or flammable material.

HAZ-10 The project owner shall direct and require all vendors delivering any hazardous material to the site to use only the route approved by the CPM (I-215 to Ethanac Road to Antelope Road and then into the facility). The project owner shall obtain approval of the CPM if an alternate route is desired.

Verification: At least 30 days prior to the first receipt of any hazardous materials on site, the project owner shall submit copies of the required transportation route to the CPM for review and approval.

HAZ-11 The project owner shall direct all vendors carrying any liquid hazardous materials greater than 500 gallons not to deliver during the time in the mornings and afternoons when children are going to and from school. The project owner shall coordinate with any present or future schools near the facility regarding the times when students may be traveling in the transportation route area.

Verification: At least 30 days prior to the first receipt of any hazardous materials on site, the project owner shall submit documentation to the CPM identifying the hours that delivery of hazardous materials may and may not take place.

HAZ-12 The project owner shall ensure that the construction, operation, and maintenance of the natural gas pipeline is done in compliance with Public Utilities Commission General Order 112-E and 58-A standards, and Federal Department of Transportation (DOT) regulations, Title 49, Code of Federal Regulations (CFR), Parts 190, 191, and 192. Those portions of the natural gas pipeline that

are owned by a regulated public utility which is subject to a substantively similar requirement shall not be subject to this condition.

Verification: At least 30 days prior to the construction of the gas pipeline, the project owner shall provide proof that the above regulations will be complied with to the CPM

Appendix A

HAZARDOUS MATERIAL MANAGEMENT
BASIS FOR STAFF'S USE OF 75 PPM AMMONIA EXPOSURE CRITERIA

Staff uses a health-based airborne concentration of 75 PPM to evaluate the significance of impacts associated with potential accidental releases of ammonia. While this level is not consistent with the 150 ppm level used by EPA and Cal/EPA in evaluating such releases pursuant the Federal Risk Management Program and State Accidental Release Program, it is appropriate for use in staff's CEQA analysis. The Federal Risk Management Program and the State Accidental Release Program are administrative programs designed to address emergency planning and ensure that appropriate safety management practices and actions are implemented in response to accidental releases. However, the regulations implementing these programs do not provide clear authority to require design changes or other major changes to a proposed facility. The preface to the Emergency Response Planning Guidelines (ERPGs) states that "these values have been derived as planning and emergency response guidelines, **not** exposure guidelines, they do not contain the safety factors normally incorporated into exposure guidelines. Instead they are estimates, by the committee, of the thresholds above which there would be an unacceptable likelihood of observing the defined effects." It is staff's contention that these values apply to healthy adult individuals and are levels that should not be used to evaluate the acceptability of avoidable exposures for the entire population. While these guidelines are useful in decision making in the event that a release has already occurred (for example, prioritizing evacuations), they are not appropriate for and are not binding on discretionary decisions involving proposed facilities where many options for mitigation are feasible. CEQA requires permitting agencies making discretionary decisions to identify and mitigate potentially significant impacts through changes to the proposed project.

Staff has chosen to use the National Research Council's 30 minute Short Term Public Emergency Limit (STPEL) for ammonia to determine the potential for significant impact. This limit is designed to apply to accidental unanticipated releases and subsequent public exposure. Exposure at this level should not result in serious effects but would result in "strong odor, lacrimation, and irritation of the upper respiratory tract (nose and throat), but no incapacitation or prevention of self-rescue." It is staff's opinion that exposures to concentrations above these levels pose significant risk of adverse health impacts on sensitive members of the general public. It is also staff's position that these exposure limits are the best available criteria to use in gauging the significance of public exposures associated with potential accidental releases. It is, further, staff's opinion that these limits constitute an appropriate balance between public protection and mitigation of unlikely events, and are useful in focusing mitigation efforts on those release scenarios that pose real potential for serious impacts on the public. Table 1 provides a comparison of the intended use and limitations associated with each of the various criteria that staff considered in arriving at the decision to use the 75-ppm STPEL. Appendix B provides a summary of adverse effects, which might be expected to occur at various airborne concentrations of ammonia.

Hazardous Material Management
Appendix A Table 1
Acute Ammonia Exposure Guidelines

Guideline	Responsible Authority	Applicable Exposed Group	Allowable Exposure Level	Allowable* Duration of Exposures	Potential Toxicity at Guideline Level/Intended Purpose of Guideline
IDLH[2]	NIOSH	Workplace standard used to identify appropriate respiratory protection.	300 ppm	30 min.	Exposure above this level requires the use of "highly reliable" respiratory protection and poses the risk of death, serious irreversible injury or impairment of the ability to escape.
IDLH/10[1]	EPA, NIOSH	Work place standard adjusted for general population factor of 10 for variation in sensitivity	30 ppm	30 min.	Protects nearly all segments of general population from irreversible effects
STEL[2]	NIOSH	Adult healthy male workers	35 ppm	15 min. 4 times per 8 hr day	No toxicity, including avoidance of irritation
EEGL[3]	NRC	Adult healthy workers, military personnel	100 ppm	Generally less than 60 min.	Significant irritation but no impact on personnel in performance of emergency work; no irreversible health effects in healthy adults. Emergency conditions one time exposure
STPEL[4]	NRC	Most members of general population	50 ppm 75 ppm 100 ppm	60 min. 30 min. 10 min.	Significant irritation but protects nearly all segments of general population from irreversible acute or late effects. One time accidental exposure
TWA[2]	NIOSH	Adult healthy male workers	25 ppm	8 hr.	No toxicity or irritation on continuous exposure for repeated 8 hr. Work shifts
ERPG-2[5]	AIHA	Applicable only to emergency response planning for the general population (evacuation) (not intended as exposure criteria) (see preface attached)	200 ppm	60 min.	Exposures above this level entail** unacceptable risk of irreversible effects in healthy adult members of the general population (no safety margin)

1) (EPA 1987) 2) (NIOSH 1994) 3) (NRC 1985) 4) (NRC 1972) 5) (AIHA 1989)

* The (NRC 1979), (WHO 1986), and (Henderson and Haggard 1943) all conclude that available data confirm the direct relationship to increases in effect with both increased exposure and increased exposure duration.

** The (NRC 1979) describes a study involving young animals, which suggests greater sensitivity to acute exposure in young animals. The (WHO 1986) warns that the young, elderly, asthmatics, those with bronchitis and those that exercise should also be considered at increased risk based on their demonstrated greater susceptibility to other non-specific irritants

REFERENCES FOR APPENDIX A, TABLE 1

AIHA. 1989. American Industrial Hygienists Association, Emergency Response Planning Guideline, Ammonia, (and Preface) AIHA, Akron, OH.

EPA. 1987. U.S. Environmental Protection Agency, Technical Guidance for Hazards Analysis, EPA, Washington, D.C.

NRC. 1985. National Research Council, Criteria and Methods for Preparing Emergency Exposure Guidance Levels (EEGL), short-term Public Emergency Guidance Level (SPEGL), and Continuous Exposure Guidance Level (CEGL) Documents, NRC, Washington, D.C.

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Abbreviations for Appendix A, Table 1

ACGIH, American Conference of Governmental and Industrial Hygienists
AIHA, American Industrial Hygienists Association
EEGL, Emergency Exposure Guidance Level
EPA, Environmental Protection Agency
ERPG, Emergency Response Planning Guidelines
IDLH, Immediately Dangerous to Life and Health Level
NIOSH, National Institute of Occupational Safety and Health
NRC, National Research Council
STEL, Short Term Exposure Limit
STPEL, Short Term Public Emergency Limit
TLV, Threshold Limit Value
WHO, World Health Organization

Appendix B

SUMMARY OF ADVERSE HEALTH EFFECTS OF AMMONIA

638 PPM

WITHIN SECONDS:

Significant adverse health effects;

Might interfere with capability to self rescue;

Reversible effects such as severe eye, nose and throat irritation.

AFTER 30 MINUTES:

Persistent nose and throat irritation even after exposure stopped;

irreversible or long-lasting effects possible: lung injury;

Sensitive people such as the elderly, infants, and those with breathing problems (asthma) experience difficulty in breathing;

asthmatics will experience a worsening of their condition and a decrease in breathing ability, which might impair their ability to move out of area.

266 PPM

WITHIN SECONDS:

Adverse health effects;

Very strong odor of ammonia;

Reversible moderate eye, nose and throat irritation.

AFTER 30 MINUTES:

Some decrease in breathing ability but doubtful that any effect would persist after exposure stopped;

Sensitive persons: experience difficulty in breathing;

asthmatics: may have a worsening condition and decreased breathing ability, which might impair their ability to move out of the area.

64 PPM

WITHIN SECONDS:

Most people would notice a strong odor;

Tearing of the eyes would occur;

Odor would be very noticeable and uncomfortable.

Sensitive people could experience more irritation but it would be unlikely that breathing would be impaired to the point of interfering with capability of self rescue

Mild eye, nose, or throat irritation

Eye, ear, & throat irritation in sensitive people

asthmatics might have breathing difficulties but would not impair capability of self rescue

22 or 27 PPM

WITHIN SECONDS:

Most people would notice an odor;

No tearing of the eyes would occur;

Odor might be uncomfortable for some;

sensitive people may experience some irritation but ability to leave area would not be impaired;

Slight irritation after 10 minutes in some people.

4.0, 2.2, or 1.6 PPM

No adverse effects would be expected to occur;

doubtful that anyone would notice any ammonia (odor threshold 5 - 20 PPM);

Some people might experience irritation after 1 hr.

Appendix C
Ex. 1, Table 3.4-7 Chemical Inventory – Project Operation

	Chemical Name	CAS[a] Number	Maximum Quantity Onsite	Hazardous Characteristics	RQ[b] (lb)	TPQ[c] (lb)	TQ[d] (lb)	Prop 65[e]
Acutely Hazardous Materials								
Aqueous ammonia 28%	Ammonia	7664-41-7	32,000 gal+-. At 55.5lbs/cf, this corresponds to 237,433 lbs of 28% solution or 66,481 lbs of actual ammonia.	Corrosive Volatile	100	500	10,000/500	No
Hydrogen gas	Hydrogen	1333-74-0	126,000 ft^3 (approximately 665 lbs.)	Extremely flammable, explosive	N/A	N/A	10,000	No
Hazardous Materials								
Stabilized bromine (e.g. NALCO Stabrex ST70)	Bromine, sodium hydroxide mixture	1310-73-2	2,000 gal. (approximately 22,600 lbs.)	CorrosiveOxidizer	35,000	10,000	N/A	No
Sulfuric acid 93%	Sulfuric acid	7664-93-9	16,000 gal. (approximately 239,900 lbs.)	Corrosive	1,000	1,000	N/A	No
Sulfuric acid 29.5%	Sulfuric acid	7664-93-9	1,500 gal. (approximately 15,000 lbs.)	Corrosive	1,000	1,000	N/A	No
Hydrochloric acid <37%	Hydrochloric acid	7647-01-0	Brought onsite for HRSG cleaning by cleaning contractor; small quantity continuously onsite; (approximately 10,000 lbs)	Corrosive	5,000[g]	10,000[g]	15,000[g]	No
Sodium Bromide	Sodium Bromide	7647156	2,000 gal. (approximately 53,360 lbs.)	Irritant				
Polyacrylate	Polyacrylate	Various	3,000 gal.		f	f	f	No
Sodium Hypochlorite NaOCl	Sodium Hypochlorite	7681-52-9	8,000 gal. (approximately 70,630 lbs.)	Corrosive	100	f	f	No
Tri-sodium phosphate, disodium phosphate, and sodium hexameta phosphate	Tri-sodium phosphate, disodium phosphate, and sodium hexameta phosphate	7601-54-9 7558-79-4	800 gals (200-400 gal totes) (approximately 10,800 lbs.)	Toxic	5000	f	f	No
Neutralizing amines Nalco 356, Nalco Triact 1800	Cyclohexylamine, and others	108-91-8 Various	800 gal. (200-400 gal totes) (approximately 6,640 lbs.)	Corrosive	10000	10000	10000	No
Oxygen Scavenner Nalco Elimin-Ox	Carbohydrazide	497-18-7	800 gal. (200-400 gal totes) (approximately 6,880 lbs.)	Non-Hazardous	f	f	f	No
Aluminum sulfate, sodium aluminate, or polyaluminum chloride	Aluminum sulfate	10043-01-3	3,000 gal. (approximately 42,480 lbs.)	Toxic	5000	f	f	No

	Chemical Name	CAS[a] Number	Maximum Quantity Onsite	Hazardous Characteristics	RQ[b] (lb)	TPQ[c] (lb)	TQ[d] (lb)	Prop 65[e]
Ferric chloride	Ferric chloride	7705-08-0	3,000 gal. (approximately 69,970 lbs.)	Corrosive	1000	f	f	No
Coagulant aid polymer, Nalco NalcoLyte 8799	Poly-quarternaryamine	20507700000 -5062P	800 gal. (200-400 gal totes) (approximately 7,120 lbs.)	Irritant	f	f	f	No
Phosphonate, Nalco 7385	2-Phosphono-124 Butanetricarboxylic acid (45-50%)	37971-36-1	800 gal. (200-400 gal totes) (approximately 8,640 lbs.)	Irritant	f	f	f	No
Calgon Memclean C			200 gal.					
Filteraid-cationic, anionic, or non-ionic type polymer soln., Nalco NalClear	Hydro-treated light distillate, C10-16 alcohols	64742-47-8 68002-97-1	800 gal. (200-400 gal totes) (approximately 5,400 lbs.)	Irritant	f	f	f	No
Sulfur Hexafluoride	Sulfur Hexafluoride	2551-62-4	200 lbs.	Hazardous	f	f	f	No
Ammonium bifluoride	Ammonium bifluoride	1341-49-7	Brought onsite only for HRSG cleaning by cleaning contractor; 200 lbs	Corrosive	N/A	10,000	N/A	No
Citric acid	Citric acid	77-92-9	Brought onsite for HRSG cleaning by cleaning contractor; small quantity continuously onsite; 100 lbs	Corrosive	N/A	10,000	N/A	No
Sodium carbonate (soda ash)	Sodium Carbonate	497-19-8	500 lbs. (50-100 lb. bags)	Corrosive	f	f	f	No
Sodium nitrate	Sodium Nitrate	7631-99-4	500 lbs. (50-100 lb. Bags)	Corrosive	f	f	f	No
Hydroxyacetic acid	Gyrolic acid	None	1000 lbs. (50-200 lb. Bags)	Corrosive	f	f	f	No
Formic acid	Formic acid	64-18-6	600 lbs. (50-100 lb. Bags)	Corrosive	5000	f	f	No
Sodium hydroxide	Sodium hydroxide	1310-73-2	8,000 gal. (approximately 88,000 lbs.)	Corrosive	1,000	10,000	N/A	No
Sodium bisulfite (40-70%)	Sodium bisulfite (40-70%)	7631-90-5	800 gal. (approximately 6,930 lbs.)	Corrosive	N/A	5,000	10,000	No
Non – Oxidizing Biocide (NALCO 7330)	Isothiazolin / DDNPA	Contains: 26172-55-4 2682-20-4	800 gal. (approximately 6,880 lbs.)	Corrosive	N/A	10,000	N/A	No
Antifreeze	Ethylene Glycol / Propylene Glycol 30-50%	107-21-1 6423-43-4	165 gal. (approximately 1,480 lbs.)	Combustible	5,000	10,000	N/A	No
Sodium Nitrite	Sodium Nitrite	7632-00-0	500 lbs.	Oxidizer	100	10,000	N/A	No
Various laboratory reagents	N/A	N/A	10 gal. (approximately 80 lbs.)	Various	N/A	10,000	N/A	N/A

	Chemical Name	CAS[a] Number	Maximum Quantity Onsite	Hazardous Characteristics	RQ[b] (lb)	TPQ[c] (lb)	TQ[d] (lb)	Prop 65[e]
Various cleaning chemicals/detergents	N/A	N/A	100 gal. (approximately 830 lbs.)	Toxic	f	f	f	No
Carbon dioxide, liquid	Carbon dioxide	124-38-9	20,000 lbs.	Contact hazard	N/A	10,000	N/A	No
Nitrogen gas	Nitrogen	7727-37-9	150 lbs. (50 lb. Bottles)	Negligible	N/A	10,000	N/A	No
Lubricating oil	Mixture	N/A	20,000 gal. (approximately 150,270 lbs.)	Combustible	N/A	10,000	N/A	Yes
Hydraulic oil	Mixture	N/A	600 gal. (approximately 4,350 lbs.)	Combustible	N/A	10,000	N/A	Yes
Mineral insulating oil	Mixture	N/A	100,000 gal. (approximately 684,720 lbs.)	Combustible	N/A	10,000	N/A	Yes
Diesel fuel	Mixture	N/A	500 gal. (approximately 3,500 lbs.)	Combustible	N/A	10,000	N/A	Yes
Natural gas	Mixture	N/A	Via pipeline	Flammable	N/A	10,000	N/A	Yes

[a] Chemical Abstract Service.

[b] Reportable Quantity per CERCLA. Release equal to or greater than RQ must be reported. Under California law, any amount that has a realistic potential to adversely affect the environment or human health or safety must be reported.

[c] Threshold Planning Quantity. If quantities of acutely hazardous materials equal to or greater than TPQ are handled or stored, must register with local Administering Agency. For hazardous materials, the TPQ is 10,000 lb.

[d] Federal and state thresholds for RMP reporting.

[e] Chemicals known to the state of California to cause cancer or reproductive toxicity.

[f] No reporting requirement.

E. WASTE MANAGEMENT

The project will generate hazardous and non-hazardous wastes during construction and operation. This section reviews the Applicant's waste management plans for reducing the risks and environmental impacts associated with the handling, storage, and disposal of project-related wastes.

Federal and state laws regulate the management of hazardous waste. Hazardous waste generators must obtain EPA identification numbers and only use permitted treatment, storage, and disposal facilities. Registered hazardous waste transporters must handle the transfer of hazardous waste to disposal facilities. (Ex. 67, p. 5.13-8.)

Summary and Discussion of the Evidence

1. Site Description

The Inland Empire Energy Center will be located on approximately 35 acres of a 45.8-acre parcel of land southeast of the community of Romoland in unincorporated Riverside County, California. Properties in the general vicinity of the proposed project site are of mixed uses including agriculture, commercial, industrial, residential and vacant properties. Since at least 1953, the site itself has been used for agricultural purposes. (Ex. 67, p. 5.13-3.)

A Phase I Environmental Site Assessment (ESA) was conducted on the proposed site in accordance with methods prescribed by the American Society for Testing and Materials (ASTM Standard E 1527-00). (*See* Ex. 1, Appendix H.) The assessment determined that there was no evidence or record of any use, spillage or disposal of hazardous substances on the site, or any other environmental concern that would require remedial action. The evidence of record demonstrates that no conditions exist which would require further site assessment or site remediation. Conditions of Certification **WASTE-1** and

WASTE-2 will ensure the appropriate handling of unanticipated environmental site issues which may arise during site preparation and/or construction. (*Ibid.*)

2. Construction

a. Non-hazardous Wastes

During construction, the primary waste stream will be solid, non-hazardous materials such as vegetation debris, lumber, excess concrete, metal, glass, empty non-hazardous chemical containers, paper, cardboard, plastics and insulating materials. Up to 60 tons of non-hazardous waste and approximately 10 tons of metal waste will be generated. These wastes will be recycled where practicable, with the remainder deposited at a Class III landfill. Although not anticipated, if any site soil is found during excavation activities to be unsuitable as backfill material, such soil would require off site disposal as well. (Ex. 1, §5.13.3.1; Ex. 67, p. 5.13-4.)

Non-hazardous liquid wastes will be generated during construction. These include sanitary wastes, storm water runoff, equipment wash water, excavation dewatering waste, and pipe flushing and hydrotesting water. With the exception of the sanitary wastes and the storm water runoff, these liquid wastes will be contained and tested for hazardous characteristics, then either discharged to the sewer system or transported offsite for disposal at a Class I facility depending on the test results. The storm water runoff and sanitary wastes are discussed in the **Soil and Water Resources** section of this Decision. (Ex. 1, §5.13.3-2; Ex. 67, p. 5.13-4.)

b. Hazardous Wastes

Hazardous wastes anticipated to be generated during construction may include small quantities of waste oil, waste paints, spent solvents, and spent welding materials. The wastes will be stored on site for less than 90 days and properly

recycled or disposed in a permitted Class I (hazardous) facility. (Ex. 1, § 5.13.3.3.)

3. Operation

a. Non-hazardous Waste

Non-hazardous waste generated during project operation will include approximately 45 cubic yards annually of solid waste from routine maintenance and office wastes, such as paper, newsprint, aluminum cans, and glass and plastic containers. To the extent practical, these waste materials will be recycled with the remaining solid wastes disposed at a Class III landfill. (Ex. 1, p. 5.13-7; Ex. 67, p. 5.13-4.) The low volume of these wastes will result in a less than significant impact to available landfills. (*Ibid.*)

Non-hazardous liquid wastes will be generated during facility operation, including process and sanitary wastewater and storm water runoff. The process water will be reclaimed and reused until the total dissolved solids concentrate to levels requiring discharge to the Eastern Municipal Water District's (EMWD) non-reclaimable waste system. Disposal of this material will be accomplished via a new pipeline. Sanitary wastes will be discharged to the EMWD sanitary via an existing sewer line. (Ex. 67, p. 5.13-5; See also **Soil and Water Resources** section of this Decision.)

b. Hazardous Waste

Hazardous wastes anticipated to be generated during routine project operation include used oil and oil-contaminated materials such as rags and absorbents, spent welding materials, waste paints, spent solvents, used batteries, spent selective catalytic reduction (SCR) catalysts, turbine cleaning waste water, and waste HRSG cleaning chemicals. (Ex. 67, p. 5.13-5.)

Approximately 2,575 gallons of waste oil will be generated and subsequently transported to a certified recycler each year. Periodic turbine cleaning will generate contaminated wash water that will be analyzed for appropriate disposal. HRSG cleaning solutions will be recycled by the licensed contractor conducting the cleaning. (*Ibid*.) The evidentiary record establishes that the hazardous wastes generated by IEEC represent a very small increase in the generation of the total quantities of hazardous wastes within Riverside County and therefore will be less than significant. (*Ibid.*)

4. Potential Impacts on Waste Disposal Facilities

Applicant's Table 5.13-2 of the AFC, replicated below, lists three Class III facilities that will accept non-hazardous solid wastes from the IEEC project.

Table 5.13-2 Non-hazardous Solid Waste Disposal Sites (Class III)

Landfill Disposal Site Name	Location	Permitted Capacity (tons/day)	Current Operating Capacity (tons/day)	Remaining Capacity (cubic yards)	Anticipated Year of Closure
Lamb Canyon Landfill	Beaumont	1,900	470	5.5 million	2024
El Sobrante	Corona	4,000	3,000	2.2 million*	2035*
Badlands	Moreno Valley	4,000	1,700	4.2 million	2018
Robert A. Nelson Transfer Station	Riverside				

*An additional 100 million cubic yards has recently been permitted, making the anticipated date of closure 2035. Ex. 1, p. 5.13-5.

The three facilities possess a total of 11.9 million cubic yards of remaining capacity, with closure dates ranging from 2018 to 2035. As stated above, IEEC will generate approximately 45 cubic yards of solid non-hazardous waste per year during operation. These wastes will be transported by Riverside County Waste Management to its Robert A. Nelson Transfer Station for segregation of recyclables and subsequent landfill disposal of the remaining waste. Disposal will likely occur in the Lamb Canyon Landfill, one of the three facilities noted

above; this landfill possesses a remaining capacity of 5.5 million cubic yards. (Ex. 67, pp. 5.13-5 to 5.13-6.)

The three Class I landfills in California permitted to accept hazardous waste are: Kettleman Hills in Kings County, Buttonwillow (Safety-Kleen) in Kern County, and Superstition Hills (Safety-Kleen) in Imperial County. The evidence shows that in total, these facilities possess 20 million cubic yards of remaining hazardous waste disposal capacity, with remaining operating lifetimes up to 50 years. Applicant indicates that hazardous wastes from the IEEC will be transported to the Safety-Kleen facility located 38 miles away in Highland, California, and from there to appropriate disposal in one of Safety-Kleen's two permitted Class I landfills. (Ex. 1, § 5.13.2.2; Ex. 67, p. 5.13-6.)

As the evidence of record demonstrates, much of the hazardous waste generated during facility construction and operation will be recycled, therefore, the volume of hazardous waste from the proposed project requiring off-site disposal would be a very small fraction of the existing combined capacity of the three Class I landfills and will not significantly impact the capacity or remaining life of any of these facilities. (*Ibid*.)

Hazardous and Non-Hazardous Wastes Generated During Construction and Operation
Ex. 1, Table 5.13-1

Waste	Hazard Category	Origin	Generation Period	Composition	Quantity	Disposal
Paper / Wood / Glass / Plastics	Non-hazardous	Packing materials	Construction	Paper / wood / glass / plastics	50 tons	Recycled where possible or disposed of in a Class III Landfill
Concrete	Non-hazardous	Construction excess	Construction	Concrete	10 tons	Recycled where possible or disposed of in a Class III Landfill
Metal	Non-hazardous	Packing materials, empty non-hazardous chemical containers, welding operations	Construction	Primarily steel	10 tons	Recycled
Paints / Solvents	Hazardous	Painting equipment and buildings	Construction / Operation	Volatile organic compounds	Small quantities of residual material	Disposed of in a Class 1 landfill
Welding materials	Hazardous	Welding operations	Construction / Operation	Volatile organic compounds / heavy metals	Small quantities of residual material	Disposed of in a Class 1 landfill
Oil Sorbents	Hazardous	Cleanup of small spills	Construction / Operation	Hydrocarbons	Approximately 200 pounds/year	Recycled or disposed of in a class I landfill.
Municipal solid waste	Non-hazardous	Daily site operations	Operation	Broken parts, defective materials, empty containers	45 cu.yds / year	Recycled where possible or disposed of in a Class III Landfill
Lubricating oil	Hazardous	Gas turbine lubricating oil system	Operation	Hydrocarbons	2575 gals per year	Disposed of by a certified oil recycler.
Lubricating oil filters	Hazardous	Gas turbine lubricating oil system	Operation	Paper, metal, and hydrocarbons	800 lbs per year	Disposed of in a Class I landfill

Waste	Hazard Category	Origin	Generation Period	Composition	Quantity	Disposal
Turbine wash water	Hazardous	Turbines	Operation	Water, unburned carbon and other contaminants	9,480 gal per year	If hazardous, sent to a wastewater treatment facility. If non-hazardous, then offsite disposal by contractor.
SCR catalyst units	Hazardous	SCR system	Operation	Metal and heavy metals	70,000 lbs every 3 to 5 years	Recycled by manufacture or disposed in a Class 1 Landfill.
Cooling tower sludge	May be hazardous, but usually not	Cooling tower basin	Operation	Dirt from air, cooling water treatment chemicals	100-200 lbs per year	Class II landfill if non-hazardous, Class I landfill if hazardous
Chemical cleaning wastes	Hazardous	HRSG cleaning	Operation	Alkaline and acidic solutions	140,000 gals initially and every 10 years	Offsite disposal by contractor
Spent batteries	Hazardous	Station batteries	Operation	Lead-acid batteries	Approximately 200 lbs per year	Battery recycler
Oily Rags	Hazardous	Maintenance	Operation	Hydrocarbons, cloth	Approximately 800 rags/year	Recycled or disposed in a class I landfill.

FINDINGS AND CONCLUSIONS

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

1. The project will generate hazardous and non-hazardous wastes during construction and operation of the IEEC.
2. Applicant's Geotechnical and Phase I environmental assessments found that there is no evidence or record of any use, spillage or disposal of hazardous substances on the site, or any other environmental concern that would require remedial action.
3. The evidence of record demonstrates that no conditions exist which would require further site assessment or site remediation.
4. The project will recycle hazardous and non-hazardous wastes to the extent possible and in compliance with applicable law.
5. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to an appropriate Class I landfill.
6. Non-hazardous wastes that cannot be recycled will be deposited at Class III landfills in the local area.
7. Disposal of project wastes will not result in any significant direct or cumulative impacts to existing Class I or Class III waste disposal facilities.
8. The Conditions of Certification, below, and the waste management practices described in the evidentiary record will reduce potential impacts to insignificant levels and ensure that project wastes are handled in an environmentally safe manner.

The Commission therefore concludes that the management of project wastes will comply with all applicable laws, ordinances, regulations, and standards related to waste management as identified in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall provide the resume of a Registered Professional Engineer or Geologist, who shall be available for consultation during soil excavation and grading activities, to the CPM for review and approval. The resume shall demonstrate experience in remedial investigation and feasibility studies.

The Registered Professional Engineer or Geologist shall be given full authority 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.

WASTE-2 If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Registered Professional Engineer or Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and file a written report to the project owner and CPM stating the recommended course of action.

Depending on the nature and extent of contamination, the Registered Professional Engineer or 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 Registered Professional Engineer or Geologist, significant remediation may be required, the project owner shall contact representatives of the Santa Ana Regional Water Quality Control Board, the Riverside County Department of Environmental Health, and the Cypress Regional Office of the California Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any reports filed by the Registered Professional Engineer or Geologist to the CPM within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

WASTE-3 The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to generating any hazardous waste.

Verification: The project owner shall keep its copy of the identification number on file at the project site and notify the CPM via the Monthly Compliance Report of its receipt.

WASTE-4 Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.

WASTE-5 The project owner shall prepare a Construction Waste Management Plan and an Operation Waste Management Plan for all wastes generated during construction and operation of the facility, respectively, and shall submit both plans to the CPM for review and approval, and to the Riverside County Department of Environmental Health and the Eastern Municipal Water District for review and comment. The plans shall contain, at a minimum, the following:

- A description of all waste streams, including projections of frequency, amounts generated, and hazard classifications; and
- Methods of managing each waste, including treatment methods and companies contracted with for treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/reduction plans.

Verification: No less than 30 days prior to the start of site mobilization, the project owner shall submit the Construction Waste Management Plan to the CPM for approval, and to the Riverside County Department of Environmental Health and the Eastern Municipal Water District for review and comment.

The operation waste management plan shall be submitted to the CPM for approval, and to the Riverside County Department of Environmental Health and the Eastern Municipal Water District for review and comment no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM.

In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to the planned management methods.

E. WASTE MANAGEMENT

The project will generate hazardous and non-hazardous wastes during construction and operation. This section reviews the Applicant's waste management plans for reducing the risks and environmental impacts associated with the handling, storage, and disposal of project-related wastes.

Federal and state laws regulate the management of hazardous waste. Hazardous waste generators must obtain EPA identification numbers and only use permitted treatment, storage, and disposal facilities. Registered hazardous waste transporters must handle the transfer of hazardous waste to disposal facilities. (Ex. 67, p. 5.13-8.)

Summary and Discussion of the Evidence

1. Site Description

The Inland Empire Energy Center will be located on approximately 35 acres of a 45.8-acre parcel of land southeast of the community of Romoland in unincorporated Riverside County, California. Properties in the general vicinity of the proposed project site are of mixed uses including agriculture, commercial, industrial, residential and vacant properties. Since at least 1953, the site itself has been used for agricultural purposes. (Ex. 67, p. 5.13-3.)

A Phase I Environmental Site Assessment (ESA) was conducted on the proposed site in accordance with methods prescribed by the American Society for Testing and Materials (ASTM Standard E 1527-00). (*See* Ex. 1, Appendix H.) The assessment determined that there was no evidence or record of any use, spillage or disposal of hazardous substances on the site, or any other environmental concern that would require remedial action. The evidence of record demonstrates that no conditions exist which would require further site assessment or site remediation. Conditions of Certification **WASTE-1** and

WASTE-2 will ensure the appropriate handling of unanticipated environmental site issues which may arise during site preparation and/or construction. (*Ibid.*)

2. Construction

a. Non-hazardous Wastes

During construction, the primary waste stream will be solid, non-hazardous materials such as vegetation debris, lumber, excess concrete, metal, glass, empty non-hazardous chemical containers, paper, cardboard, plastics and insulating materials. Up to 60 tons of non-hazardous waste and approximately 10 tons of metal waste will be generated. These wastes will be recycled where practicable, with the remainder deposited at a Class III landfill. Although not anticipated, if any site soil is found during excavation activities to be unsuitable as backfill material, such soil would require off site disposal as well. (Ex. 1, §5.13.3.1; Ex. 67, p. 5.13-4.)

Non-hazardous liquid wastes will be generated during construction. These include sanitary wastes, storm water runoff, equipment wash water, excavation dewatering waste, and pipe flushing and hydrotesting water. With the exception of the sanitary wastes and the storm water runoff, these liquid wastes will be contained and tested for hazardous characteristics, then either discharged to the sewer system or transported offsite for disposal at a Class I facility depending on the test results. The storm water runoff and sanitary wastes are discussed in the **Soil and Water Resources** section of this Decision. (Ex. 1, §5.13.3-2; Ex. 67, p. 5.13-4.)

b. Hazardous Wastes

Hazardous wastes anticipated to be generated during construction may include small quantities of waste oil, waste paints, spent solvents, and spent welding materials. The wastes will be stored on site for less than 90 days and properly

recycled or disposed in a permitted Class I (hazardous) facility. (Ex. 1, § 5.13.3.3.)

3. Operation

a. Non-hazardous Waste

Non-hazardous waste generated during project operation will include approximately 45 cubic yards annually of solid waste from routine maintenance and office wastes, such as paper, newsprint, aluminum cans, and glass and plastic containers. To the extent practical, these waste materials will be recycled with the remaining solid wastes disposed at a Class III landfill. (Ex. 1, p. 5.13-7; Ex. 67, p. 5.13-4.) The low volume of these wastes will result in a less than significant impact to available landfills. (*Ibid.*)

Non-hazardous liquid wastes will be generated during facility operation, including process and sanitary wastewater and storm water runoff. The process water will be reclaimed and reused until the total dissolved solids concentrate to levels requiring discharge to the Eastern Municipal Water District's (EMWD) non-reclaimable waste system. Disposal of this material will be accomplished via a new pipeline. Sanitary wastes will be discharged to the EMWD sanitary via an existing sewer line. (Ex. 67, p. 5.13-5; See also **Soil and Water Resources** section of this Decision.)

b. Hazardous Waste

Hazardous wastes anticipated to be generated during routine project operation include used oil and oil-contaminated materials such as rags and absorbents, spent welding materials, waste paints, spent solvents, used batteries, spent selective catalytic reduction (SCR) catalysts, turbine cleaning waste water, and waste HRSG cleaning chemicals. (Ex. 67, p. 5.13-5.)

Approximately 2,575 gallons of waste oil will be generated and subsequently transported to a certified recycler each year. Periodic turbine cleaning will generate contaminated wash water that will be analyzed for appropriate disposal. HRSG cleaning solutions will be recycled by the licensed contractor conducting the cleaning. (*Ibid*.) The evidentiary record establishes that the hazardous wastes generated by IEEC represent a very small increase in the generation of the total quantities of hazardous wastes within Riverside County and therefore will be less than significant. (*Ibid.*)

4. Potential Impacts on Waste Disposal Facilities

Applicant's Table 5.13-2 of the AFC, replicated below, lists three Class III facilities that will accept non-hazardous solid wastes from the IEEC project.

Table 5.13-2 Non-hazardous Solid Waste Disposal Sites (Class III)

Landfill Disposal Site Name	Location	Permitted Capacity (tons/day)	Current Operating Capacity (tons/day)	Remaining Capacity (cubic yards)	Anticipated Year of Closure
Lamb Canyon Landfill	Beaumont	1,900	470	5.5 million	2024
El Sobrante	Corona	4,000	3,000	2.2 million*	2035*
Badlands	Moreno Valley	4,000	1,700	4.2 million	2018
Robert A. Nelson Transfer Station	Riverside				

*An additional 100 million cubic yards has recently been permitted, making the anticipated date of closure 2035. Ex. 1, p. 5.13-5.

The three facilities possess a total of 11.9 million cubic yards of remaining capacity, with closure dates ranging from 2018 to 2035. As stated above, IEEC will generate approximately 45 cubic yards of solid non-hazardous waste per year during operation. These wastes will be transported by Riverside County Waste Management to its Robert A. Nelson Transfer Station for segregation of recyclables and subsequent landfill disposal of the remaining waste. Disposal will likely occur in the Lamb Canyon Landfill, one of the three facilities noted

above; this landfill possesses a remaining capacity of 5.5 million cubic yards. (Ex. 67, pp. 5.13-5 to 5.13-6.)

The three Class I landfills in California permitted to accept hazardous waste are: Kettleman Hills in Kings County, Buttonwillow (Safety-Kleen) in Kern County, and Superstition Hills (Safety-Kleen) in Imperial County. The evidence shows that in total, these facilities possess 20 million cubic yards of remaining hazardous waste disposal capacity, with remaining operating lifetimes up to 50 years. Applicant indicates that hazardous wastes from the IEEC will be transported to the Safety-Kleen facility located 38 miles away in Highland, California, and from there to appropriate disposal in one of Safety-Kleen's two permitted Class I landfills. (Ex. 1, § 5.13.2.2; Ex. 67, p. 5.13-6.)

As the evidence of record demonstrates, much of the hazardous waste generated during facility construction and operation will be recycled, therefore, the volume of hazardous waste from the proposed project requiring off-site disposal would be a very small fraction of the existing combined capacity of the three Class I landfills and will not significantly impact the capacity or remaining life of any of these facilities. (*Ibid*.)

Hazardous and Non-Hazardous Wastes Generated During Construction and Operation
Ex. 1, Table 5.13-1

Waste	Hazard Category	Origin	Generation Period	Composition	Quantity	Disposal
Paper / Wood / Glass / Plastics	Non-hazardous	Packing materials	Construction	Paper / wood / glass / plastics	50 tons	Recycled where possible or disposed of in a Class III Landfill
Concrete	Non-hazardous	Construction excess	Construction	Concrete	10 tons	Recycled where possible or disposed of in a Class III Landfill
Metal	Non-hazardous	Packing materials, empty non-hazardous chemical containers, welding operations	Construction	Primarily steel	10 tons	Recycled
Paints / Solvents	Hazardous	Painting equipment and buildings	Construction / Operation	Volatile organic compounds	Small quantities of residual material	Disposed of in a Class 1 landfill
Welding materials	Hazardous	Welding operations	Construction / Operation	Volatile organic compounds / heavy metals	Small quantities of residual material	Disposed of in a Class 1 landfill
Oil Sorbents	Hazardous	Cleanup of small spills	Construction / Operation	Hydrocarbons	Approximately 200 pounds/year	Recycled or disposed of in a class I landfill.
Municipal solid waste	Non-hazardous	Daily site operations	Operation	Broken parts, defective materials, empty containers	45 cu.yds / year	Recycled where possible or disposed of in a Class III Landfill
Lubricating oil	Hazardous	Gas turbine lubricating oil system	Operation	Hydrocarbons	2575 gals per year	Disposed of by a certified oil recycler.
Lubricating oil filters	Hazardous	Gas turbine lubricating oil system	Operation	Paper, metal, and hydrocarbons	800 lbs per year	Disposed of in a Class I landfill

Waste	Hazard Category	Origin	Generation Period	Composition	Quantity	Disposal
Turbine wash water	Hazardous	Turbines	Operation	Water, unburned carbon and other contaminants	9,480 gal per year	If hazardous, sent to a wastewater treatment facility. If non-hazardous, then offsite disposal by contractor.
SCR catalyst units	Hazardous	SCR system	Operation	Metal and heavy metals	70,000 lbs every 3 to 5 years	Recycled by manufacture or disposed in a Class 1 Landfill.
Cooling tower sludge	May be hazardous, but usually not	Cooling tower basin	Operation	Dirt from air, cooling water treatment chemicals	100-200 lbs per year	Class II landfill if non-hazardous, Class I landfill if hazardous
Chemical cleaning wastes	Hazardous	HRSG cleaning	Operation	Alkaline and acidic solutions	140,000 gals initially and every 10 years	Offsite disposal by contractor
Spent batteries	Hazardous	Station batteries	Operation	Lead-acid batteries	Approximately 200 lbs per year	Battery recycler
Oily Rags	Hazardous	Maintenance	Operation	Hydrocarbons, cloth	Approximately 800 rags/year	Recycled or disposed in a class I landfill.

FINDINGS AND CONCLUSIONS

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

1. The project will generate hazardous and non-hazardous wastes during construction and operation of the IEEC.
2. Applicant's Geotechnical and Phase I environmental assessments found that there is no evidence or record of any use, spillage or disposal of hazardous substances on the site, or any other environmental concern that would require remedial action.
3. The evidence of record demonstrates that no conditions exist which would require further site assessment or site remediation.
4. The project will recycle hazardous and non-hazardous wastes to the extent possible and in compliance with applicable law.
5. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to an appropriate Class I landfill.
6. Non-hazardous wastes that cannot be recycled will be deposited at Class III landfills in the local area.
7. Disposal of project wastes will not result in any significant direct or cumulative impacts to existing Class I or Class III waste disposal facilities.
8. The Conditions of Certification, below, and the waste management practices described in the evidentiary record will reduce potential impacts to insignificant levels and ensure that project wastes are handled in an environmentally safe manner.

The Commission therefore concludes that the management of project wastes will comply with all applicable laws, ordinances, regulations, and standards related to waste management as identified in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall provide the resume of a Registered Professional Engineer or Geologist, who shall be available for consultation during soil excavation and grading activities, to the CPM for review and approval. The resume shall demonstrate experience in remedial investigation and feasibility studies.

The Registered Professional Engineer or Geologist shall be given full authority 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.

WASTE-2 If potentially contaminated soil is unearthed during excavation at either the proposed site or linear facilities as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the Registered Professional Engineer or Geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and file a written report to the project owner and CPM stating the recommended course of action.

Depending on the nature and extent of contamination, the Registered Professional Engineer or 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 Registered Professional Engineer or Geologist, significant remediation may be required, the project owner shall contact representatives of the Santa Ana Regional Water Quality Control Board, the Riverside County Department of Environmental Health, and the Cypress Regional Office of the California Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any reports filed by the Registered Professional Engineer or Geologist to the CPM within 5 days of their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

WASTE-3 The project owner shall obtain a hazardous waste generator identification number from the Department of Toxic Substances Control prior to generating any hazardous waste.

Verification: The project owner shall keep its copy of the identification number on file at the project site and notify the CPM via the Monthly Compliance Report of its receipt.

WASTE-4 Upon becoming aware of any impending waste management-related enforcement action by any local, state, or federal authority, the project owner shall notify the CPM of any such action taken or proposed to be taken against the project itself, or against any waste hauler or disposal facility or treatment operator with which the owner contracts.

Verification: The project owner shall notify the CPM in writing within 10 days of becoming aware of an impending enforcement action. The CPM shall notify the project owner of any changes that will be required in the manner in which project-related wastes are managed.

WASTE-5 The project owner shall prepare a Construction Waste Management Plan and an Operation Waste Management Plan for all wastes generated during construction and operation of the facility, respectively, and shall submit both plans to the CPM for review and approval, and to the Riverside County Department of Environmental Health and the Eastern Municipal Water District for review and comment. The plans shall contain, at a minimum, the following:

- A description of all waste streams, including projections of frequency, amounts generated, and hazard classifications; and
- Methods of managing each waste, including treatment methods and companies contracted with for treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/reduction plans.

Verification: No less than 30 days prior to the start of site mobilization, the project owner shall submit the Construction Waste Management Plan to the CPM for approval, and to the Riverside County Department of Environmental Health and the Eastern Municipal Water District for review and comment.

The operation waste management plan shall be submitted to the CPM for approval, and to the Riverside County Department of Environmental Health and the Eastern Municipal Water District for review and comment no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions within 20 days of notification by the CPM.

In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to the planned management methods.

VI. ENVIRONMENTAL ASSESSMENT

Under its statutory mandate, the Commission must evaluate a project's potential effect upon the environment. The specific topics reviewed in this portion of the Decision include biological resources, soil and water resources, cultural resources, and geological and paleontological resources. This review determines whether project-related activities will result in adverse impacts to the natural and human environment.

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 critical biological interest such as unique habitats. The following review describes the biological resources of the project site and off-site laydown and parking areas, assesses the potential for adverse impacts on biological resources, and determines whether mitigation measures are necessary to ensure compliance with applicable laws, ordinances, regulations, and standards.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The proposed project site and linear facility routes will be located in Perris Valley, in western Riverside County, approximately two miles northeast of Sun City and immediately southeast of Romoland. (Ex. 67, p. 5.2-6.) The project site is located on flat terrain. Beyond the immediate site, the area is bordered a few miles in the distance by low hills and foothills. (*Ibid*.) Currently the area is dominated by agricultural land, consisting of wheat, alfalfa, and safflower. (Ex. 2, p. 6.1-2.) Development is planned such that surrounding residential land use will replace agricultural use. The project site lies within the Southern California Moreno Valley and the Western Riverside Multiple Species Habitat Conservation

Planning Unit (MSHCP). Based on vegetation mapping completed for the draft Western Riverside MSHCP, this area is highly disturbed. (Ex. 2, p. 6.1-2; Ex. 67, p. 5.2-6.)

The land surface in the project area is subject to regular disturbance from agricultural activities; therefore, wildlife habitat resources are limited. There is little or no cover or suitable nesting habitat above one foot from the surface; however, foraging habitat exists. The list of observed wildlife included a variety of common songbirds, raptors, and a few species of toads, frogs, snakes, lizards, ground squirrel, rabbit, coyote, and skunk. (Ex. 1, Table 5.3-8.)

Although the area around the project site has been highly modified, several special status plant and animal species are known to historically occur within one mile of the project area, or were specifically identified by US Fish and Wildlife Service and California Department of Fish and Game as likely to occur within the project area. A list of these species is presented in **Table 1** below. (Ex. 67, p. 5.2-8.)

Biological Resources Table 1
Sensitive Species Known to Occur in the Project Vicinity
(Ex. 1, Tables 5.3-1 and 5.3-2)

Sensitive Plants	**Status**(Federal, State, CNPS)**
Atriplex coronata var. *notatior* (San Jacinto Valley crownscale)*	--,CE,1B
Atriplex pacifica (south coast saltscale)	FSC,--,1B
Atriplex parishii (Parish's brittlescale)	FSC,--,1B
Brodiaea filifolia (thread-leaved brodiaea)*	FE,CT,1B
Chorizanthe parryi var. *parryi* (Parry's spineflower)	--,--,3
Dodecahema leptoceras (slender-horned spineflower)*	FE,CE,1B
Hemizonia pungens var. *laevis* (smooth tarplant)	--,CSC,1B
Lasthenia glabrata coulteri (Coulter's goldfields)	--,CSC,1B

Sensitive Wildlife	Status (Federal, State)
Navarretia fossalis (spreading navarretia)*	--,CE,1B
Orcuttia californica (California orcutt grass)*	FE,CE,1B
Trichoronis wrightii var. *wrightii* (Wright's trichocoronis)	--,--,2
Birds	
Haliaeetus leucocephalus (bald eagle)*	FT,CE
Aquila chrysaetos (golden eagle)*	--,CSC
Polioptila californica (coastal California gnatcatcher)*	FT,CSC
Empidonax traillii extimus (southwestern willow flycatcher)*	FE,--
Vireo bellii pusillus (least Bell's vireo)	FE,CE
Athene cunicularia (burrowing owl)	--,CSC
Buteo swainsoni (Swainson's hawk)*	--,CT
Invertebrates	
Branchinecta lynchi (vernal pool fairy shrimp)*	FT,--
Euphydryas editha quino (Quino checkerspot butterfly)*	FE,--
Mammals	
Dipodomys stephensi (Stephens' kangaroo rat)*	FE,CT
Dipodomys merriami parvus (San Bernardino kangaroo rat)*	FE,CSC
Reptiles and Amphibians	
Scaphiopus hammondi (western spadefoot toad)	FSC,CSC
Cnemidophorus hyperythrus (orange throated whiptail)	FSC,CSC
Bufo microscaphus californicus (arroyo southwestern toad)	FE,CSC

* - Species also identified in USFWS and CDFG correspondence (USFWS 2001a; USFWS 2001b; and CDFG 2001a).

** - **Status Legend:** **FE**: Federally Endangered; **FT**: Federally Threatened; **FSC**: Federal Species of Concern; **FPE**: Federal Proposed Endangered; **FPT**: Federal Proposed Threatened; **FC**: Federal Candidate for Listing; **CE**: California Endangered; **CT**: California Threatened; **CPE**: California Proposed Endangered; **CSC**: California Species of Special Concern; **CFP**: California Fully-protected Species; **CR**: California Rare; California Native Plant Society (CNPS) **CNPS List 1A**: Presumed Extinct; **CNPS List 1B**: Rare or endangered in California and elsewhere; **CNPS List 2**: Plants rare, threatened or endangered in California but more common elsewhere; **CNPS List 3**: Plants about which we need more information – a review list.

1. Construction Impacts

The power plant and construction laydown area will result in the permanent loss of 35 acres and the temporary loss of 11 acres of agricultural habitat. The linear facilities and compressor station will result in the permanent loss of 3.6 acres and temporary loss of 25.13 acres of agricultural and ruderal habitat. (Ex. 67, pp. 5.2-10, 5.2-13, 5.2-14.) Applicant completed spring wildlife surveys from April to June 2001 to assess the potential presence of occupied, or suitable but unoccupied habitat for bald and golden eagles, southwestern willow flycatcher, least Bell's vireo, Quino checkerspot butterfly, arroyo southwestern toad, western spadefoot toad, Stephens' kangaroo rat and San Bernardino kangaroo rat. The evidence of record indicates that none of these species or any of the plant and animal species listed in **Table 1** were observed during the survey period. (Ex. 1, pp. 5.3-15 to 5.3-19; Ex. 67, p. 5.2-7.)

After extensive field studying and sampling in 2001 and 2002, Applicant was unable to determine conclusively the presence or absence of federally listed fairy shrimp. The only area of potentially occupied habitat is identified by Applicant as MW-51, a depression feature along the natural gas and transmission line corridor. (Ex. 2, p. 6.1-4; Ex. 67, p. 5.2-15.) In lieu of conclusive survey results, Applicant proposed mitigation measures for this potential impact that emphasize avoidance of potential vernal pool fairy shrimp habitat. These mitigation measures have been incorporated into Condition of Certification **BIO-10** to ensure that any impacts are reduced to less than significant. (Ex. 58, §4.0 et seq.; Ex. 68, pp. 47-48.)

Focused surveys for Stephens' kangaroo rat, a federally endangered species, completed by Applicant in 2001 showed no evidence of habitat or occupation by the species. (Ex. 1, p. 5.3-24.) The IEEC has been approved for coverage under the existing Stephens' kangaroo rat HCP for incidental take of Stephens'

kangaroo rat. (Ex. 67, p. 5.2-20.) Thus, impacts can generally be mitigated by payment of a fee to comply with the County's fee ordinance. (Ex. 67, pp. 5.2-14, 5.2-20.) Condition of Certification **BIO-12** requires Applicant to pay fees determined by the Habitat Conservation Agency for temporary and permanent disturbance, as specified in the County's Stephens' kangaroo rat fee ordinance 663.10. The USFWS has indicated that compliance with the regional incidental take permit (Stephens' kangaroo rat HCP) will be required to ensure Endangered Species Act compliance for this species. This requirement will be incorporated into Applicant's final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) pursuant to Condition of Certification **BIO-5** to ensure that any related impacts are reduced to levels that are less than significant. (Ex. 68, pp. 44-45.)

The evidence of record indicates that the IEEC Project may contribute to significant cumulative impacts to biological resources from the loss of habitat to vernal pool fairy shrimp and the loss of historical Stephens' kangaroo rat habitat, especially in light of continued residential, commercial and industrial development in this region. Condition of Certification **BIO-11**, requiring payment to the Riverside Habitat Conservation Agency, will reduce all potential impacts to less than significant levels. (Ex. 68, pp. 48-49.)

We also require additional mitigation measures including: the hiring of a Designated Biologist to perform pre-activity plant and wildlife surveys for the sensitive species identified in **Table 1**; a worker environmental awareness training program; and additional avoidance measures addressed in Conditions of Certification **BIO-1** through **BIO-6**. Condition of Certification **BIO-9** ensures that the project will comply with the draft Western Riverside MSHCP policies applicable to private development that may impact sensitive habitat. With these mitigation measures, the evidence establishes that impacts to Stephens' kangaroo rat and other sensitive species that may occur in the power plant and construction laydown areas will be less than significant. (Ex. 67, p. 5.2-14.)

2. Operational Impacts

There is a potential for dry and wet deposition of nitrogen to affect the sensitive environment of Class I wilderness areas, the closest of which is 20 miles from the IEEC site. The mountains of southern California receive some of the highest rates of atmospheric nitrogen deposition in the world and these high deposition rates extend throughout the Los Angeles Basin into Riverside and San Bernardino Counties. The high rates of nitrogen deposition may contribute indirectly to the decline of coastal sage scrub in Riverside and San Bernardino Counties by encouraging the replacement of the native vegetation with invasive grasses that out compete seedlings of native shrubs. (Ex. 67, p. 5.2-15.)

The Final Determination of Compliance issued by the South Coast Air Quality Management District requires a more stringent limit on nitrogen emissions than what was originally proposed by Applicant in the AFC. Therefore, project impacts for this contaminant will be even less than those analyzed. (Ex.1, § 5.2.1.4; Ex. 48, pp. 28-29; *See* **AIR QUALITY**.)

The evidence of record shows that in order to mitigate air quality impacts, the IEEC plant will implement best available control technology (BACT). Emission controls at the source will achieve the maximum reduction of nitrogen emissions technically feasible. In addition, offsets will be purchased to mitigate for air quality impacts. Both BACT and Reclaim Trading Credits will be used to mitigate NOx emissions for the IEEC plant. (Ex. 68, p. 39.)

Applicant submitted permit applications to ensure compliance of the IEEC project with Sections 401 and 404 of the Clean Water Act and the Clean Air Act (Ex. 11.). The applicable conditions of these permits will be incorporated into Applicant's BRMIMP pursuant to Conditions of Certification **BIO-7** and **BIO-8**. (Ex. 68, p. 46.)

The proposed project's cumulative contribution to nitrogen deposition in forests, coastal sage scrub, chaparral and other habitats within Class I wilderness areas and the draft MSHCP planning area may have an impact resulting in the deterioration of the quality of this native habitat and the effectiveness of conservation efforts. The evidence of record demonstrates that, when viewed in the context of all current mobile and stationary sources that contribute to existing background conditions in the County, the contribution of the plant is relatively small and, therefore, less than significant.

The IEEC will not induce growth but rather serve demand that is already projected in County and local development plans. Therefore, we find that growth-inducing impacts are less than significant. (Ex. 2, p. 6.1-6; Ex.67, 5.2-22.)

FINDINGS AND CONCLUSIONS

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

1. The power plant and construction laydown area will result in the permanent loss of 35 acres and the temporary loss of 11 acres of agricultural habitat. The linear facilities and compressor station will result in the permanent loss of 3.6 acres and temporary loss of 25.13 acres of agricultural and ruderal habitat.

2. No sensitive species or suitable habitat for sensitive species were observed at the project site, the construction parking and laydown areas, or along the linear facility corridors.

3. Field studies and sampling did not determine conclusively the presence or absence of federally listed fairy shrimp along a depression feature along the natural gas and transmission line corridor.

4. In lieu of conclusive survey results, Applicant will be required to employ mitigation measures to ensure that impacts are reduced to less than significant.

5. The IEEC's potential direct, indirect, and cumulative impacts will be adequately mitigated by the measures specified in the Conditions of Certification listed below and the measures developed in the BRIMIMP.

6. Nitrogen deposition from the project will not significantly contribute to adverse cumulative impacts upon biological resources.

7. The project will not cause significant growth inducing impacts, but rather serve existing and projected growth.

8. With the implementation of the mitigation measures identified in the evidentiary record and the Conditions of Certification listed below, the IEEC will conform with all applicable laws, ordinances, regulations, and standards related to biological resources as identified in the pertinent portion of **Appendix A** of this Decision.

We therefore conclude that implementation of the Conditions of Certification will ensure the project conforms with all applicable laws, ordinances, regulations, and standards related to biological resources and that all potential adverse impacts to biological resources will be mitigated to levels of insignificance.

CONDITIONS OF CERTIFICATION

BIO-1 The project owner shall submit the resume, including contact information, of the proposed Designated Biologist to the CPM for approval prior to the start of any site or related facilities mobilization.

Verification: The project owner shall submit the specified information at least 60 days prior to the start of any site or related facilities mobilization. Site or related facilities mobilization shall not commence until an approved Designated Biologist is available to be on site.

The Designated Biologist must meet the following minimum qualifications:

1. Bachelor's Degree in biological sciences, zoology, botany, ecology, or a closely related field;
2. 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
3. At least one year of field experience with biological resources found in or near the project area.

If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 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.

BIO-2 The Designated Biologist shall perform the following during any site or related facilities mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by a Biological Monitor(s).

1. Advise the project owner's Construction Manager and Operation Manager, supervising construction engineer and operations engineer on the implementation of the biological resources Conditions of Certification;
2. Be available to supervise or conduct 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;
3. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;

4. Prior to construction commencing each day, inspect active construction areas where animals may have become trapped. 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 (parking lots) for animals in harms way;
5. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification; and
6. Respond directly to inquiries of the CPM regarding biological resource issues.

Verification: The Designated Biologist shall maintain written records of the tasks described above; summaries of these records shall be submitted in the Monthly Compliance Reports (MCRs). The Biological Monitor(s) shall be approved by the CPM. Biological Monitor(s) training shall include familiarity with the Conditions of Certification and the monitoring procedures established in the BRMIMP. During project operation, the Designated Biologist shall submit summaries of the tasks described above in the Annual Compliance Report.

BIO-3 The project owner's Construction Manager and Operation Manager shall act on the advice of the Designated Biologist or Biological Monitor(s) to ensure conformance with the biological resources Conditions of Certification. If required by the Designated Biologist or Biological Monitor(s), the project owner's Construction Manager or Operation Manager shall halt all site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist as sensitive or which may affect a sensitive area or sensitive species.

The Designated Biologist and Biological Monitor(s) shall:

1. Require a halt to all activities in any area when it is determined that there would be an adverse impact to sensitive biological resources if the activities continued;
2. Inform the project owner, the Construction Manager and the 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 halt.

Verification: The Designated Biologist must notify the CPM and the project owner immediately (and no later than the following morning of 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.

BIO-4 The project owner shall develop and implement a CPM approved Worker Environmental Awareness Program (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 training may be in the form of a video if administered by a person approved by the Designated Biologist.

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 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 submit to the CPM two copies of the WEAP and all supporting written materials prepared or reviewed by the Designated Biologist and a resume of the person(s) administering the program.

The project owner shall submit in the MCR 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.

The signed training acknowledgement forms from construction shall be kept on file by the project owner for a period of at least six months after the start of commercial operation.

During project operation, signed statements for active project operational personnel shall be kept on file for six months following the termination of an individual's employment.

BIO-5 The project owner shall submit two copies of the proposed Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) to the CPM for review and approval and to CDFG and USFWS for review and comment prior to the start of any site or related facilities mobilization and shall implement the measures identified in the approved BRMIMP.

The final BRMIMP 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 in the Commission's Final Decision;
3. All biological resource mitigation, monitoring and compliance measures required in federal agency terms and conditions, such as those provided in the USACE permit and as a result of informal consultation between the project owner and the USFWS;
4. All biological resources mitigation, monitoring and compliance measures required in other state agency terms and conditions, such as those provided in the RWQCB permit;
5. All biological resources mitigation, monitoring and compliance measures required in local agency permits, such as site grading, noise, lighting, and landscaping requirements;
6. All incidental take minimization measures as provided in the Stephens' kangaroo rat HCP or as specified by the Stephens' kangaroo rat Habitat Conservation Agency;
7. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
8. All required mitigation measures for each sensitive biological resource;
9. Required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;

10. A detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities;
11. 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;
12. Aerial photographs, at an approved scale, of all areas to be disturbed during project construction activities - one set prior to any site or related facilities mobilization disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times/dates were chosen;
13. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
14. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
15. All remedial measures to be implemented if performance standards are not met;
16. A preliminary discussion of potential biological-resources-related facility closure measures;
17. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval; and
18. A copy of all biological resources related permits.

Verification: The project owner shall submit the specified document at least 60 days prior to start of any site or related facilities mobilization.

The CPM, in consultation with the CDFG, the USFWS and any other appropriate agencies, shall 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 and USFWS within 10 days of their receipt and the BRMIMP shall be revised or supplemented to reflect the permit conditions within 20 days of their receipt.

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 CDFG, the USFWS, and appropriate agencies to ensure no conflicts exist.

Within 30 days after completion of project construction, the project owner shall submit to the CPM, for review and approval, a written 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.

BIO-6 The project owner shall incorporate into the permanent or unexpected permanent closure plan, and the BRMIMP, measures that address the local biological resources.

The planned permanent or unexpected permanent closure plan will address the following biological resources related mitigation measures (typical measures are):

1. Removal of transmission conductors when they are no longer used and useful;
2. Removal of all power plant site facilities and related facilities;
3. Measures to restore wildlife habitat to promote the re-establishment of native plant and wildlife species; and
4. Revegetation of the plant site and other disturbed areas utilizing appropriate seed mixture.

Verification: At least 12 months prior to commencement of closure activities, the project owner shall address all biological resources related issues associated with facility closure in a Biological Resources Element. The Biological Resources Element shall be incorporated into the Facility Closure Plan and the BRMIMP and include a complete discussion of the local biological resources and proposed facility closure mitigation measures.

BIO-7 The project owner will acquire the Regional Water Quality Control Board Section 401 Clean Water Act certification, and incorporate the biological resource related terms and conditions into the project's BRMIMP.

Verification: At least 30 days prior to the start of any site or related facilities mobilization activities, the project owner will submit to the CPM a copy of the final Regional Water Quality Control Board's certification.

BIO-8 The project owner shall submit to the CPM a final copy of the U.S. Army Corps of Engineers Section 404 of the federal Clean Water Act permit. The biological resources related terms and conditions contained in the permit shall be incorporated into the project's BRMIMP.

Verification: At least 30 days prior to the start of any site or related facilities mobilization, the project owner shall submit to the CPM a copy of the U.S. Army Corps of Engineers permit.

BIO-9 The project owner shall modify the project design to incorporate all feasible measures that avoid or minimize impacts to the local biological resources. These modifications may include:

1. Design transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources. If, in the final design plans, the 500kV or the 115 kV transmission lines are located within four feet of site MW-51, potential impacts to listed fairy shrimp shall be reevaluated by the CPM in coordination with the USFWS.
2. Avoid wetland loss as defined in the Western Riverside County Multi-Species Habitat Conservation Plan or loss of jurisdictional features as defined by the U.S. Army Corps of Engineers; and
3. Design and construct transmission lines and all electrical components to reduce the likelihood of electrocutions of large birds.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP.

BIO-10 The project owner shall manage its construction site and related facilities, in a manner to avoid or minimize impacts to the local biological resources.

Typical and site specific measures shall include:

1. Temporarily fence 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 approved for use by USFWS and CDFG;

2. Make certain all food-related trash will be disposed of in closed containers and removed at least once a week. Feeding of wildlife shall be prohibited;

3. Prohibit non-security related firearms or weapons from being brought to the site;

4. Prohibit pets from being brought to the site;

5. Report all inadvertent 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;

6. Protect potential vernal pool fairy shrimp habitat identified as site MW-51 from sedimentation or wind (aeolic) deposition originated by project construction;

7. Access to the 0.9-mile transmission line when adjacent to the MW-51 shall be restricted to the west of the existing and new 500-kV lattice towers;

8. Eliminate any California Exotic Pest Plants of Concern (CalEPPC) List A species from landscaping plans;

9. Use native, drought tolerant species in the restoration of land temporarily disturbed during the installation linear underground facilities;

10. Restore temporarily disturbed sites to their pre-existing physical condition; and

11. In areas that potentially support vernal pool fairy shrimp, the project owner shall perform the following measures:

    - Biological impacts to potential fairy shrimp habitat shall be minimized to the maximum extent possible by siting facilities away from such sensitive habitats, within disturbed agricultural fields, adjacent to or within existing road or established utility rights-of-way.
    - Prior to the start of any construction activities in the vicinity of MW-51 (potential vernal pool fairy shrimp habitat), a qualified biologist shall delineate and flag the boundaries of the feature.
    - K-rail concrete barriers will be installed around the MW-51 feature to protect the feature from construction activities. There shall be a minimum of four feet of clearance between the barrier and the MW-51 feature. The barrier shall be continuous around the MW-51 feature only insofar as it does not interfere with the hydrology of the feature. If it is necessary to allow breaks in the barrier to maintain existing hydrology, then the concrete barrier shall be substituted with fencing in these segments.
    - Construction within the area, which drains into MW-51, shall be conducted during dry weather.
    - Trenching adjacent to MW-51 shall be done by hand.
    - Ephemeral drainages shall be restored to pre-construction topography/contours and compaction immediately following construction and installation activities. Furthermore, the proposed disturbance to such features shall not affect (i.e., act as a barrier to) existing surrounding hydrologic conditions.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP.

BIO-11 Prior to site or related facilities mobilization, the IEEC shall comply with the provisions of Riverside County Ordinance No. 663, which requires the payment of fees for permanent and temporary loss of historical Stephens' kangaroo rat habitat within the Stephens' kangaroo rat HCP fee

assessment area. The project owner shall purchase habitat credits for temporary impacts to 36.13 acres and permanent impacts to 38.60 acres. Fees shall be based on the most current fees assessed by Riverside County. Monies shall be paid directly to the Riverside County Habitat Conservation Agency.

Verification: At least 30 days prior to site or related facilities mobilization, the project owner shall demonstrate to the CPM evidence of receipt of payment of the Stephens' kangaroo rat habitat fee by the County of Riverside. At least 30 days prior to site mobilization (or other CPM-approved timeframe), the project owner shall submit to the CPM a written certificate or letter from the County of Riverside stating the date and amount of funds received.

BIO-12 Prior to site or related facilities mobilization, the project owner shall pay an Interim Open Space Mitigation Fee in the amount assessed in accordance with Riverside County Ordinance No. 810 to assist in providing revenue to acquire and preserve open space and habitat (Riverside 2002a). The amount of the fee shall be based on permanent impacts to 38.6 acres using the most current fee rates for industrial projects under this Ordinance. Any area identified as “no use proposed” on the approved exhibit A (i.e., the AFC, Ex. 1) shall not be included in the project area.

Verification: At least 30 days prior to site or related facilities mobilization, the project owner shall submit to the CPM documentation that payment has been made to the County of Riverside for the Interim Open Space Mitigation Fee. At least 30 days prior to site or related facilities mobilization (or other CPM-approved timeframe), the project owner shall provide a letter from the County of Riverside stating the date and amount of funds received for open space and habitat mitigation.

BIO-13 Prior to site or related facilities mobilization, the project owner shall enter into a legally binding agreement with Southern California Edison (SCE), or its successor, regarding construction and maintenance of the transmission line between the Inland Empire Energy Center and the Valley substation. The agreement shall include the measures identified in the BRMIMP and Conditions of Certification **BIO-5** and **BIO-10**. The agreement shall also allow the CPM access to the transmission line corridor throughout construction and operation. The project owner is ultimately responsible for implementation of all mitigation measures associated with the 0.9 mile transmission line.

Verification: At least 30 days prior to site or related facilities mobilization along the transmission line corridor, the project owner shall submit to the CPM a copy of the initial agreement between the parties for review and approval. Any proposal to enter into a subsequent agreement must be submitted 30 days in advance of its execution to the CPM for review and approval in consultation with appropriate state, federal, or local authorities. The agreement may be terminated

at any time, provided that the terminated agreement is replaced by another agreement which complies with the requirements set forth and is effective immediately upon termination of the prior agreement.

B. SOIL AND WATER RESOURCES

This section focuses on the soil and water resources associated with the project, specifically the project's potential to induce erosion and sedimentation, adversely affect water supplies, and degrade water quality. The analysis also considers the potential cumulative impacts to water quality in the project vicinity. To prevent or reduce any potential adverse impacts, several mitigation measures are included in the Conditions of Certification to ensure that the project will comply with all applicable federal, state, and local LORS.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Inland Empire Energy Center (IEEC) site is located in southwestern Riverside County. The site is characterized by flat topography. Based on the draft grading plans, the existing grade for the IEEC site ranges from 1,448 to 1,439 feet above mean sea level, and gently drains to the west and southwest. Land use in the vicinity of the IEEC is primarily agriculture intermixed with commercial, industrial and rural residential uses in the immediate vicinity. Major landmarks near the proposed project include SCE's Valley Substation located approximately ¾ miles east of the site, and the Burlington Northern and Santa Fe (BNSF) Railroad traversing diagonally along the northeast boundary of the IEEC site. Construction of the IEEC will remove 35 acres of land from agricultural use. (Ex. 67, pp. 5.9-5, 5.9-7.)

1. Soils

The project site size is 45.8 acres, of which 35 acres will be developed permanently for the IEEC facility. The primary soil on the site and along recycled water, domestic water, and sewer line routes is classified as Monserate Sandy Loam (MmB). Other less dominant, but similar soil types are found on the IEEC site, while numerous other soil types lie along the routes of the linear facilities for

non-reclaimable wastewater and natural gas. An estimated 8,000 cubic yards of fill will be imported. (Ex. 67, p. 5.9-7.)

Construction activities may increase the potential for soil loss from wind and water erosion. (Ex. 1, p. 5.6-12; Ex. 67, p. 5.9-19.) The evidence of record shows that, based on the soil characteristics of the IEEC site and associated linear facilities, erosion potential from wind and water is generally slight to moderate. Applicant will use best management practices in implementing erosion control measures during construction. Condition of Certification **Soil & Water 1** requires detailed plans to be developed as part of the Erosion and Sedimentation Control Plan. (Ex. 1, p. 5.6-18; Ex. 67, p. 5.9-19; Ex. 68, p. 67.) During operation of the power plant, routine vehicular access to the project site will be limited to existing roads, most of which are paved. Therefore, we conclude that impacts to soil resources during the operation of the project will be insignificant. (Ex. 1, p. 5.6-19.)

a. Soil and Groundwater Contamination

Based on the findings resulting from the Phase I Environmental Site Assessment, it does not appear that there is any known soil and groundwater contamination at the IEEC site, nor any significant potential for such conditions to exist. (Ex. 67, pp. 5.9-19, 5.9-20.)

b. Storm Water Management

Development of roads, buildings, and other paved or impermeable surfaces as part of the IEEC project will increase the rate and volume of runoff generated on the site. This may increase storm water discharges and the potential for sediment and contaminants to be conveyed by storm water flows off-site. (Ex. 67, p. 5.9-34.) Off-site storm water flows will be diverted around the facilities using a combination of berms and swales. On-site storm water runoff will be

collected by a combination of catch basins, area drains, and surface drainage system, and directed to a sedimentation/detention basin located in the southwest corner of the site. (Ex. 2, p. 6.2-5.) Applicant will employ Best Management Practices (BMPs) and develop and implement a Storm Water Pollution Prevention Plan (SWPPP) to assure no significant increase in erosion from construction activities. (Ex. 2, p. 6.2-4.) The SWPPP will include the final operating drainage design consistent with the criteria specified by the County of Riverside. (Ex. 68, p. 68.) Conditions of Certification **Soil & Water 2** and **Soil & Water 3** assure the adequacy of erosion control measures

The linear facilities will cross a total of five ephemeral drainages which are contiguous, and considered jurisdictional waters of the United States Army Corps of Engineers (USACOE) under Section 404 of the Clean Water Act. (Ex. 67, p. 5.9-35.) Conditions of Certification **Soil & Water 2** and **Soil & Water 3** provide the USACOE the opportunity to review plans and provide comments for construction and industrial activities SWPPPs. These will also include comprehensive BMPs necessary for installation of all linear facilities.

2. Hydrology

The IEEC site is located in the Menifee Valley portion of the San Jacinto River watershed, which encompasses 753 square miles. The climate in the project area is semi-arid with rainfall during the winter months from November through April, averaging 12 inches per year. No perennial surface water sources exist on the project site or within one mile of the IEEC site. San Jacinto River, an ephemeral drainage located about three miles northwest of the IEEC site, traverses the valley in a northeast to southwest direction. Salt Creek, another ephemeral drainage, traverses the valley in generally a westward direction and is located about four miles south of the IEEC site. The Ethanac Wash is the primary drainage feature near the site of the proposed IEEC and drains along the

IEEC southern property boundary at McLaughlin Road and into the San Jacinto River. (Ex. 1, § 5.4; Ex. 67, p. 5.9-21.)

The Ethanac Wash defines the 100-year flood boundary in the vicinity of the IEEC. Based on the most recent hydrologic and topographic information, the IEEC site is entirely outside of the 100-year flood zone. (Ex. 4, Data Response #51.). Based on evidentiary record, it does not appear that the proposed IEEC Project will either exacerbate flood conditions, or be exposed to flood conditions itself. (Ex. 67, p. 5.9-21.)

3. Project Water Supply

Recycled water will be used for producing steam in the heat recovery steam generators and for condensing the steam in the cooling tower. The recycled water supply will be provided from Eastern Municipal Water District (EMWD) via a 24-inch pipeline.[31] EMWD, a member public agency of the Metropolitan Water District of Southern California (MWD), provides wholesale and retail water service and wastewater services to a 555 square mile service area in Riverside County. The agency is responsible for water supply, water treatment, wastewater collection, wastewater treatment, water recycling, and groundwater management within its boundaries. (Ex. 67, p. 5.9-11.)

IEEC's average annual recycled water demands for cooling and process purposes are projected to be 4,150 acre-feet/year based on 8 hours/day duct firing. Peak annual demands are projected to be 4,958 acre-feet/year based on 16 hours/day duct firing. (Ex. 67, pp. 5.9-10, 5.9-11.) The proposed average and maximum daily water demands projected for water supply to the IEEC are summarized as follows:

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[31] On December 20, 2001, Applicant and EMWD executed a Memorandum of Understanding for the Provision of Recycled Water to IEEC. (*See* Ex. 59.)

Soil and Water Table 2
Annual and Daily Project Water Demands at 5 Cooling Cycles of Concentration
(Ex. 67, p. 5.9-11.)

Water Use (1,2,3&4)	Average Instantaneous Use	Maximum Instantaneous Use
Microfiltration Reject to Sanitary Sewer	4 gpm	18 gpm
Reverse Osmosis Reject Water Recycled to Cooling Tower	16 gpm	81 gpm
Demineralized Water to CTG Foggers to Stack	15 gpm	66 gpm
Demineralized Water to CTG for Wash Water Recycled to Cooling Tower	2 gpm	2 gpm
Demineralized Water to Steam Cycle Makeup Recycled to Cooling Tower	31 gpm	175 gpm
HRSG Blowdown System Quench Water Recycled to Cooling Tower	23 gpm	43 gpm
Water to Cooling Tower Makeup	2,377 gpm	4,751 gpm
Site Landscaping Requirement (4)	6 gpm	6 gpm
Total Plant Water Usage Requirements	**2,474 gpm**	**5,142 gpm**

(1) Average annual water consumption requirements are based on operation at 61°F with two CTGs operating at 100% load, no HRSG duct firing, CTG inlet air fogging, and no CTG power augmentation steam injection. (Ex. 1, Section 3.4.9, Figures 3.4-6 and 3.4-7.)
(2) Peak annual water consumption requirements are based on operation at 97°F with two CTGs operating at 100% load, maximum HRSG duct firing, CTG inlet air fogging, and CTG power augmentation steam injection. (Ex.1, Section 3.4.9, Figures 3.4-6 and 3.4-7.)
(3) Average and peak water demands in Table 2 are based on Applicant's conservative 5 cycles of concentration of the cooling water, which is expected to operate within a range of 5 – 10 cycles of concentration.
(4) Staff's estimate of site landscape irrigation requirement for 2. 5 acres of irrigated landscaping, 10"/ max mo and 50"/yr. Actual irrigation requirement will need to be verified by Applicant, based on site landscaping plan and vigorously growing visual barrier trees.

Staff's testimony indicates that IEEC will require raw water supplements for its first year of oepration. Thereafter, the supply of recycled water is projected to be adequate to meet average demands of IEEC. (Ex. 67, p. 5.9-13.) However, Applicant stated that Staff omitted an essential table in the Final Staff Assessment. (Ex. 2, p. 6.2-8; Ex. 4, Table 81-3 from Data Response No. 81.) This table indicates, with average project demand, it will be approximately five years before sufficient new recycled water will be available in the peak summer demand periods to supply the IEEC. This compares to six years at the higher demand level. (Ex. 2, p. 6.2-8; Ex. 4, Data Response #81.) **Soil and Water Table 8**, replicted from Staff's testimony and revised from Applicant's testimony, indicates the raw water augmentation attributable to IEEC needed to meet peak demand.

Soil and Water Table 8
Recommended Limits of Fresh Water Augmentation to EMWD's Recycled Water System Attributable to IEEC

Year	Recycled Water Available From EMWD	Fresh Water Augmentation Needed To Meet Peak 4,958 afy Demands	**Maximum Limits of Raw Water Augmentation Attributable to IEEC (acre-feet/year)**
2005	4,085	873	**1,000**
2006	4,275	683	**800**
2007	4,465	493	**600**
2008	4,629	329	**400**
2009	4,770	188	**200**
2010	4,889	69	**100**
2011 and after	4,958	0	**100**

(Ex. 2, pp.6.2-14, Ex. 67, p. 5.9-26.)

Staff subsequently revised its proposed Condition of Certification **Soil & Water 5** to provide corrrected limits of fresh water augmentation to EMWD's recycled water system attributable to IEEC. These limits will avoid potential impacts that

could result from IEEC exceeding its fresh water use. (Ex. 67, p. 5.9-25; Ex 68, p. 69.) Even though these limits appear consistent with State statutes and policies for the protection of water quality, conservation of fresh inland water and the use of recycled water, we find that IEEC must use 100 percent recycled water for its non-potable requirements at the earliest possible date. Therefore, we direct Compliance staff to carefullly monitor the project's operational use of fresh water and to disallow any exceedences thereof absent the mitigating circumstances specified in the Condition **Soil & Water-5.**

Recycled water supplied to IEEC will be stored in a tank with a capacity of 2.5 million gallons to be used during an interruption in water supply. The evidence of record demonstrates that this size tank will be adequate to buffer fluctuations in the deliveries from the recycled water supply system. (Ex. 67, p. 5.9-24.) Potable water supply from EMWD as provided via an 8-inch diameter service is projected to average 2 gpm, and will be used for domestic, fire suppression, and plant service water purposes. (Ex. 67, p. 5.9-11.)

Although groundwater will not be used, water balance and salinity concentrations in the groundwater basin may be a concern because the quantity of EMWD's recycled water applied to groundwater recharge may be slightly reduced. The existing average recovery from groundwater is about 23,000 acre-feet/year, and the average annual recharge is about 48,000 acre-feet/year, because the waste stream will not be used for recharge of groundwater, a reduction in average recharge by 4,150 acre-feet/year will be due to IEEC's usage. The use of recycled water will have a net positive effect in reducing groundwater salinity by reducing the recharge that would otherwise contribute to increasing salinity and nitrate concentrations in non-brackish groundwater. Therefore, the evidentiary record supports the conclusion that the reduction in average annual recharge atrributable to IEEC will not cause a depletion or a net adverse impact on the overall West San Jacinto Groundwater Basin (WSJGB) water balance and will

have a net positive effect by reducing groundwater salinity and nitrate in localized sub-basins of the WSJGB. (Ex. 67, p. 5.9-9.)

4. Wastewater Disposal

Wastewater disposal can lead to soil, surface, and ground water degradation and impairment of beneficial uses. Applicant will discharge sanitary wastes and backwash from its microfiltration process into the sanitary sewer. Cooling tower blowdown will be discharged into the Non-Reclaimable Wastewater Pipeline. Other wastewater streams will be recycled for use as cooling tower makeup. These include the reject stream from reverse osmosis, HRSG blowdown, and recovery from plant service water drains. (Ex. 67, pp. 5.9-33, 5.9-34.)

IEEC will produce non-reclaimable wastewater at an average rate of approximately 0.86 mgd, and up to 1.2 mgd peak flow. This wastewater will be conveyed via a new 4.7-mile long pipeline from IEEC to EMWD's Reach 4 Pipeline. EMWD's Reach 4 Pipeline has a current capacity of 10 mgd, but only utilizes about 1 mgd currently in conjunction with EMWD's groundwater desalinization program. The evidence of record shows that the addition of IEEC's proposed non-reclaimable wastewater volume will not exceed EMWD's current capacity for conveyance and disposal. (Ex. 67, p. 5.9-34.)

Condition of Certification **Soil & Water 6** requires that, prior to initiating project operation, Applicant secure a Service Agreement with EMWD that addresses recycled water for supplying process and cooling water, potable water for domestic and fire protection, process wastewater to be discharged into the Non-Reclaimable Waste Line, and Sanitary Wastewater service. The Service Agreement is also expected to include the Industrial Waste Discharge Permit and Non-Reclaimable Wastewater Discharge Permit as issued by EMWD.

5. Cumulative Impacts

The evidence in the record shows that the use of recycled water for the IEEC will not have a significant adverse cumulative impact on groundwater, or surface water quantity and quality. [32] (Ex. 2, p. 6.2-9; Ex. 67, p. 5.9-36.)

FINDINGS AND CONCLUSIONS

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

1. Soils at the project site are susceptible to erosion during excavation and construction.
2. Applicant will use best management practices (BMPs) in implementing erosion control measures during construction to limit impacts to soil resources to levels of insignificance.
3. Storm water runoff due to impervious paved surfaces at the site has potential to pollute surface water bodies in the project area.
4. Applicant will prepare Storm Water Pollution Prevention Plans (SWPPP) and Erosion Control and Sedimentation Plans (ESCP) for the construction and operation phases of the project.
5. The SWPPP and ESCP plans will be consistent with the County of Riverside and BMPs, and will address all impacts arising from storm water runoff.
6. The primary source of water for the project will be reclaimed water supplied by Eastern Municipal Water District (EMWD.)
7. Production of reclaimed water by the EMWD is sufficient to supply most of IEEC's recycled water needs and, with average project demand, within five years will be sufficient to supply peak summer demand periods.
8. Fresh water from EMWD will be available to augment recycled water supplies and provide backup water supplies.

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[32] However, in light of statewide shortages of fresh water supplies, we encourage Applicant to consider the water conservation measures identified by Staff under the section: "Possible Measures for Reducing the Fresh Water Augmentation of Recycled Water" in the FSA. (Ex. 67, p. 5.9-27 – 5.9-28.)

9. Unnecessary use of fresh water for project operations would, in this instance, be inconsistent with state policy.

10. Conformance with fresh water use limitations set forth in Condition **Soil & Water-5**, below, will assure consumption of fresh water by the project is consistent with state law and policy.

11. The IEEC will discharge process wastewater into the EMWD system.

12. No unmitigated adverse cumulative impacts to soils or water resources were identified in the evidentiary record.

13. Implementation of the Conditions of Certification, below, ensures that the project will conform with all applicable laws, ordinances, regulations, and standards (LORS) related to soil and water resources as identified in the pertinent portion of **Appendix A** attached to this Decision.

We therefore conclude that the project will not cause any significant adverse direct, indirect, or cumulative impacts to soil or water resources, and will comply with all applicable laws, ordinances, regulations, and standards (LORS).

CONDITIONS OF CERTIFICATION

SOIL & WATER 1: Prior to beginning any site mobilization activities for any project element, the project owner shall obtain Compliance Project Manager (CPM) approval for a site-specific Erosion and Sedimentation Control Plan (ESCP) that addresses all project elements. The ESCP shall be consistent with the standards normally required in Riverside County's Grading and Excavation Permits for all project elements, including a Geotechnical Soils Report and specification of any areas for import or export of soils. The plan shall address revegetation and be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL 1**.

Verification: No later than 60 days prior to the start of any site mobilization for any project element, the project owner shall submit the ESCP to the CPM for review and approval. No later than 60 days prior to start of any site mobilization, the project owner shall submit a copy of the ESCP to the County of Riverside Building and Safety Department for review and request any comments be provided to the CPM within 30 days.

SOIL & WATER 2: Prior to beginning site mobilization, the project owner shall submit a Notice of Intent for construction under the General National Pollutant Discharge Elimination System (NPDES) Permit for Discharges of Storm Water Associated with Construction Activity to the State Water

Resources Control Board (SWRCB). The project owner shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for the construction of the entire project. The SWPPP shall be submitted to Riverside County for review and comment, and to the CPM for review and approval. The SWPPP shall include a final construction drainage design consistent with the criteria specified by County of Riverside, and specify Best Management Practices (BMPs) for all on- and off-site IEEC project facilities. BMPs shall control soil erosion from storm water drainage below the detention pond and from storm water discharge of the eastern boundary interception ditch. Conditions of Certification **BIO-7** and **BIO-8** address requirements for 401 Water Quality Certification from the Regional Water Quality Control Board and a Section 404 Permit from the Army Corps of Engineers.

Verification: No later than 60 days prior to the start of site mobilization for any project element, the SWPPP for Construction Activity, and a copy of the Notice of Intent for construction under the General NPDES Permit for Discharges of Storm Water Associated with Construction Activity filed with the SWRCB, shall be submitted by the project owner to the County of Riverside Building and Safety Department for comments and to the CPM for approval. Approval of the SWPPP must be received from the CPM prior to site mobilization.

SOIL & WATER 3: Prior to project commercial operation, the project owner shall submit a Notice of Intent for operation under the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity to the State Water Resources Control Board (SWRCB). The project owner shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for the operation of the project. The SWPPP shall be submitted to Riverside County for review and comment, and to the CPM for review and approval. The SWPPP shall include final operating drainage design consistent with the criteria specified by the County of Riverside and specify BMPs and monitoring requirements for the IEEC project facilities. BMPs shall control soil erosion from drainage of storm water below the detention pond and from storm water discharge in the eastern boundary interception ditch. Conditions of Certification **BIO-7** and **BIO-8** address requirements for 401 Water Quality Certification from the Regional Water Quality Control Board and a Section 404 Permit from the Army Corps of Engineers.

Verification: No later than 60 days prior to the start of commercial operation for any project element, the SWPPP for Industrial Activity and a copy of the Notice of Intent for operating under the General NPDES Permit for Discharges of Storm Water Associated with Industrial Activity filed with the SWRCB, shall be submitted by the project owner to the County of Riverside Building and Safety Department for comments, and to the CPM for approval. Approval of the SWPPP must be received from the CPM prior to commercial operation.

SOIL & WATER 4: The project owner shall use tertiary-treated water supplied from Eastern Municipal Water District's (EMWD's) Recycled Water System as its primary source of water for cooling, process, and landscape irrigation. Based on EMWD's projected availability of recycled water supply to IEEC, it is recognized that EMWD may need to augment its recycled water system with raw water during the early years of IEEC project operation. The project owner shall obtain copies of project water-use records derived from EMWD's recycled water revenue meters. In addition, the project owner shall obtain copies of meter records or other appropriate records documenting methodology used by EMWD for billing purposes to quantify EMWD's raw water augmentation to its recycled water system at the Perris Water Treatment Plant for indirect supply to IEEC. The project owner shall prepare an annual summary, which 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. The annual summary shall distinguish sources and uses of water according to recycled water supplied for IEEC cooling, process, and landscape irrigation purposes, and raw water augmenting EMWD's recycled water system at the Perris Water Treatment Plant. For years subsequent to the initial year of IEEC operation, the annual summary shall also include the yearly range and yearly average water use.

Verification: The project owner shall submit a water use summary report to the CPM in the Annual Compliance Report (ACR) for the life of the project. . Any significant changes in the water supply for the project 's use of recycled and/or raw water for cooling, process or landscape uses shall be specified in writing to the CPM at least 60 days prior to the proposed effective date of the change.

SOIL & WATER 5: The project owner shall use recycled water to the fullest extent possible. In the initial years of operation, EMWD may need to supplement recycled water with raw imported water in amounts that will not impact the adequacy of supplies of imported water to others. The project owner must develop a mechanism with EMWD to determine the extent to which imported water is indirectly used to supplement recycled water to supply IEEC, and report annually to the CPM the actual amounts of raw water indirectly supplied to IEEC. The project owner shall work cooperatively with EMWD to ensure that such indirect use does not exceed the amounts shown in the following table, except under the circumstances specified below.

Excerpt from SOIL AND WATER Table 8

Maximum Limits of RAW Water Augmentation to EMWD's Recycled Water System Attributable to IEEC (acre-feet/year)

(Ex. 67, 5.9-26.)

Year	Maximum Permissible Limits of Raw Water Augmentation Attributable to IEEC
2005	**1,000**
2006	**800**
2007	**600**
2008	**400**
2009	**200**
2010	**100**
2011 and after	**100**

If a recycled water supply deficiency occurs due to an act of God, a natural disaster, an unforeseen emergency, or other unforeseen circumstances outside the control of the project owner, additional raw water in excess of these amounts can be used. If one of the aforementioned unavoidable circumstances should occur, the CPM, project owner and EMWD shall confer and determine how to restore the recycled water supply as soon as practicable.

Verification: The project owner shall submit a water use summary to the CPM in the ACR for the life of the project. Any significant change in the water supply for the project during construction or operation of the plant shall be specified in writing to the CPM at least 60 days prior to the proposed effective date of the change, and shall be subject to conferring with EMWD and the CPM. The project owner shall track its raw water use on a monthly basis using EMWD's meter readings or other appropriate methodology used for EMWD's billing purposes in order to notify the CPM immediately upon exceeding, or upon forecasting to exceed, the maximum raw water use as specified above.

SOIL & WATER 6: Prior to project commercial operation, the project owner shall submit an executed and final Service Agreement with EMWD. The Service Agreement shall address recycled water and raw water supplemented for process, cooling and landscape irrigation, potable water for domestic and fire protection, process and sanitary wastewater services. The Service Agreement shall include the Industrial Waste

Discharge Permit and Non-Reclaimable Wastewater Discharge Permit as issued by EMWD.

Verification: At least 30 days prior to project commercial operation, the project owner shall submit to the CPM a copy of the executed Service Agreement for IEEC between the project owner and EMWD for obtaining recycled water, supplemental raw water, potable water, process wastewater discharge and sanitary wastewater service.

SOIL & WATER 7: Following initiation of commercial operation, the project owner shall provide the CPM and the County of Riverside Flood Control Agency evidence of its submittal of as-built plans and related information as specified in FEMA's Conditional Letter of Map Revision (CLOMR) dated February 20, 2001 in order for FEMA to initiate a revision to the Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS) Report. The project owner shall also submit to the CPM a copy of FEMA's Final Letter of Map Revision (LOMR).

Verification: Within 180 days following initiation of commercial operation of the IEEC, the project owner shall submit to the CPM and the County of Riverside evidence of its submittal of as-built plans and related information. The project owner shall submit to the CPM evidence of receipt of the LOMR from FEMA, and a copy of the revised FIRM.

SOIL & WATER 8: Prior to site mobilization, the project owner shall pay a Flood Mitigation Fee in the amount assessed in accordance with Riverside County's Homeland/Romoland Area Drainage Plan (ADP) to assist in providing revenue to establish adequate community drainage facilities. The amount of the fee for industrial development shall be calculated on the basis of the prevailing Area Drainage Plan fee rate multiplied by the area of the new development.

Verification: Prior to site mobilization, the project owner shall submit to the CPM, documentation that payment has been made to the County of Riverside for the Flood Mitigation Fee.

C. CULTURAL RESOURCES

Cultural resource materials such as artifacts, structures, or land modifications reflect the history of human development. Certain places important to Native Americans or local national/ethnic groups are also considered valuable cultural resources. This topic analyzes the structural and cultural evidence of human development in the project vicinity, where cultural resources could be disturbed by project excavation and construction. Federal and state laws require a project developer, such as the Applicant in this case, to implement mitigation measures that minimize potential adverse impacts to *significant* cultural resources.

SUMMARY AND DISCUSSION OF THE EVIDENCE

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 of 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.)

1. Background

Throughout California, significant archaeological and historic artifacts related to Native American cultures, Spanish and Mexican settlements, and/or American frontier settlements could be discovered during development and construction activities. In addition, structures older than 45 years, or less if determined to be exceptional, could be considered for listing as significant historic structures.

Due to lack of water, there was little ranching or agricultural activity in the Perris Valley until after the railroad arrived in the 1880s. (Ex. 1, p. 5.16-9.) The railway

passed through the Perris Valley (known then as part of the San Jacinto Plains) and the mining town of Pinacate, the first settlement in the Perris Valley. Land title disputes prompted some Pinacate residents to start a new town along the railway two miles north. When Frederick Perris, Chief Engineer and Superintendent of Construction for the California Southern Railway, agreed to move the switch and siding to the new town, the town promoters named the town after him. The town of Perris was platted in 1886 and most of the Pinacate businesses and buildings were moved to Perris. (Ex. 67, p. 5.3-7.)

A railroad spur was built from Perris to Hemet and San Jacinto in 1888. This is the railroad line that passes through the project area. The first settlement in the project area was Ethanac, located on the south side of the tracks near what is now Romoland. Romoland was established on the north side of the tracks opposite Ethanac in 1925 by the Pacific Mutual Life Insurance Company which offered 4 to 5-acre plots for the cultivation of fig trees in Romola Farms. More recently, industrial facilities, such as concrete block manufacturing, metal fabrication, and construction equipment yards have developed along the railroad in Romoland. Some individuals who work in these industrial facilities occupy nearby homes that were built in the 1920s. (*Ibid*.)

2. Methodology

To determine whether cultural resources exist in the project vicinity, Applicant conducted a cultural resources literature search and reviewed site records and maps for the project site and within one-quarter mile on each side of the linear routes at the Eastern Information Center of the California Historic Resources Information System (CHRIS) located at the University of California, Riverside on June 20, 2001. (Ex. 1, pp. 5.16-10, 5.16-11.) No previously recorded cultural resources were identified on the energy center property or along the project's linear routes. (Ex. 1, p. 5.16-19, 20). The evidence of record also shows that there are no historical resources within one-half mile of the IEEC site or the linear

routes listed on any Riverside County historical inventory or register. (Ex. 4, Data Response 47.)

Applicant performed an intensive pedestrian survey (archaeological) of the IEEC site and the associated linear routes (Area of Potential Effect or "APE"). The survey of the power plant property was performed by walking parallel 20 meter transects. An area 100 feet wide on each side of the centerline of the linear routes was surveyed by walking two parallel transects on each side of the road or other route centerline. (Ex. 1, p. 5.16-11.) No archaeological resources were identified as a result of these surveys.

Applicant also provided an inventory and evaluation of buildings and structures from the historic period, conducted by an architectural historian or person with an appropriate background (Ex. 4, Data Response 44.). The inventory included all structures more than 45 years old within a half mile of the energy center. No buildings more than 45 years old were identified along the project's linear routes. Two historical buildings, located at 25626 Antelope Road and 28050 Matthews Road, were evaluated as eligible for the CRHR, but the evidence in the record indicates that they will not be physically impacted by construction of the IEEC or its associated linear facilities. Construction of the IEEC will not materially alter the surroundings to the point that the properties' historical significance will no longer be conveyed. The evidentiary record demonstrates that the construction of the energy center will not cause a significant impact on the setting of either property and will not affect their eligibility. (Ex. 67, pp. 5.3-8, 5.3-12.)

3. The California Native American Heritage Commission

Applicant contacted the Native American Heritage Commission (NAHC) on June 8, 2001 to obtain a list of Native Americans to be contacted for the project area.

The NAHC provided names of contacts for Riverside County. On July 3, 2001, Applicant sent letters to the list of individuals, describing the project and asking about concerns. No responses were received. The NAHC searched its sacred lands file and found no listings for the project area. (Ex. 1, p. 5.16-11.)

4. Cumulative Impacts

The evidence of record shows that because there will be no impacts on known cultural resources as a result of the Inland Empire Energy Center project, there will be no cumulative impacts on cultural resources as a result of the project. (Ex. 67, p. 5.3-13.) Although neither Applicant nor Staff found any known cultural resources, the absence of known resources does not necessarily mean that unknown resources will not be encountered. Therefore, we include the conditions of certification listed below to ensure that cultural resources are adequately protected.

FINDINGS AND CONCLUSIONS

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

1. There are no known archaeological or historic resources within or adjacent to the critical Area of Potential Effect (APE).
2. The Native American Heritage Commission has not recorded any Native American sacred properties within the APE.
3. The potential for impacts to unknown cultural resources may not be discovered until subsurface soils are exposed during excavation and construction.
4. 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 as set forth in the pertinent portions of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

CUL-1 Prior to the start of ground disturbance, the project owner shall obtain the services of a Cultural Resources Specialist (CRS), and one or more alternates, if alternates are needed, to manage all monitoring, mitigation, and curation activities. 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 evaluates any cultural resources that are newly discovered or that may be affected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR).

CULTURAL RESOURCES SPECIALIST

The resume for the CRS and alternate(s) shall include information demonstrating that the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61 are met. In addition, the CRS shall have the following qualifications:

1. a technical specialty appropriate to the needs of the project and a background in anthropology, archaeology, history, architectural history, or a related field; and
2. at least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California.

The resume of the CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS on referenced projects, and demonstrate that the CRS has the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during ground disturbance, grading, construction, and operation. In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM that the proposed CRS or alternate has the appropriate training and background to effectively implement the Conditions of Certification.

CULTURAL RESOURCES MONITOR

CRMs shall have the following qualifications:

1. a BS or BA degree in anthropology, archaeology, historic archaeology, or a related field and one year experience monitoring in California; or

2. an AS or AA degree in anthropology, archaeology, historic 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, historic archaeology, or a related field and two years of monitoring experience in California.

Verification: The project owner shall submit the resume for the CRS, and alternate(s) if desired, at least 45 days prior to the start of ground disturbance to the CPM for review and approval.

At least 10 days prior to a termination or release of the CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval.

At least 20 days prior to ground disturbance, the CRS shall submit written notification to the CPM identifying anticipated CRMs for the project stating they meet the minimum qualifications required by this condition. If additional CRMs are needed later, the CRS shall submit written notice one week prior to any new CRMs beginning work.

At least 10 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 on-site work and is prepared to implement the cultural resources Conditions of Certification.

CUL-2 Prior to the start of ground disturbance, the project owner shall 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 individual artifacts. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM.

If the footprint of the power plant or linear facilities changes, the project owner shall provide maps and drawings reflecting these changes to the CRS and the CPM for approval. Maps shall identify all areas of the project where ground disturbance is anticipated.

If construction of the project will proceed in phases, maps and drawings, not previously provided, shall be submitted prior to the start of each phase. Written notification identifying the 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: The project owner shall submit the subject maps and drawings at least 30 days prior to the start of ground disturbance.

If there are changes to any project related footprint, revised maps and drawings shall be provided at least 10 days prior to start of ground disturbance for those changes.

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.

A current schedule of anticipated project activity shall be provided to the CRS on a weekly basis during ground disturbance and also provided in each Monthly Compliance Report (MCR).

The project owner shall provide written notice of any changes to scheduling of construction phases within five days of identifying the changes.

CUL- 3 Cultural resource monitoring shall be conducted during the initial groundbreaking at the plant site and the on project's linear facilities. The potential for encountering buried deposits shall be assessed by the CRS based on the initial groundbreaking observations. The initial assessment shall prescribe the type (intermittent to full time), location, and duration for monitoring of ground disturbance within the plant site and on the project's linear facilities and show that the CPM has concurred with that determination.

The cultural resource monitoring shall continue until the CRS determines that no cultural resources will be impacted by continued construction.

Monitors shall keep a daily log of any monitoring or cultural resource activities, these logs shall be submitted weekly. The CRS shall prepare a monthly summary report on the progress or status of cultural resources-related activities. The CRS may informally discuss cultural resource monitoring and mitigation activities with Energy Commission technical staff.

The CRS and the project owner shall notify the CPM by telephone or e-mail of any incidents of non-compliance with the Conditions of Certification and/or applicable LORS within 24 hours of becoming aware of the situation. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions of Certification.

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 of certification.

A Native American monitor shall be obtained, at a minimum on an on-call basis, to monitor ground disturbance in areas where Native American artifacts are discovered. Informational lists prepared by the Native American Heritage Commission of concerned Native Americans shall be obtained. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that will be monitored.

Verification: Within 5 days after the initial groundbreaking, the CRS or alternate CRS will provide a letter (electronic or paper) to the CPM and the project owner of the assessment of the initial groundbreaking observations, including the type (intermittent to full time) and duration of cultural resources monitoring for review and approval by the CPM. Monitoring shall not be completed until the CRS has determined that continued construction will not result in an impact to cultural resources and has provided a letter stating so to the CPM and the project owner.

During the ground disturbance phases of the project, all daily logs will be submitted on a weekly basis to the CPM either through email, fax, or hard copy. During the ground disturbance phases of the project, the project owner shall include in the MCR to the CPM copies of the monthly summary reports prepared by the CRS regarding project-related cultural resources monitoring.

Within 24 hours of recognition of a non-compliance issue with the Conditions of Certification and/or applicable LORS, the CRS and the project owner shall notify the CPM by telephone of the problem and of steps being taken to resolve the problem. The telephone call shall be followed by an e-mail or fax detailing the non-compliance issue and the measures necessary to achieve resolution of the issue. Daily logs shall include forms detailing any instances of non-compliance. In the event of any non-compliance issue, a report written no sooner than two weeks and no later than six weeks after a non-compliance incident that describes the issue, resolution of the issue, and the effectiveness of the resolution measures shall be provided in the MCR following completion of the report.

When Native American artifacts are found, the project owner shall send notification to the CPM identifying the person(s) retained, at a minimum, on an on-call basis to conduct Native American monitoring. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM who will initiate a resolution process.

CUL-4 The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall be written by the CRS and shall be provided in the Archaeological Resources Management Report (ARMR) format. The CRR shall report on all field activities including dates, times and locations, findings, samplings, and analysis. All survey

reports, DPR 523 forms, and additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) shall be included as an appendix to the CRR.

Verification: The project owner shall submit the CRR within 90 days after completion of ground disturbance (including landscaping). Within 10 days after CPM approval, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the State Historic Preservation Officer (SHPO), the CHRIS, and the curating institution (if archaeological materials were collected).

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. The training may be presented in the form of a video. 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. information that the CRS, alternate CRS, or CRM has the authority to halt construction in the event of a discovery or unanticipated impact to a cultural resource;
4. instruction that employees are to halt work on their own in the vicinity of a potential cultural resources find, and shall contact their supervisor and the CRS or CRM; 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 each employee's hard hat indicating that that employee has completed environmental training.

Verification: The project owner shall provide in the Monthly Compliance Report the WEAP Certification of Completion form of workers who have completed the training in the prior month, as well as a running total of all workers who have completed training to date.

CUL-6 The project owner shall grant authority to halt construction to the CRS, alternate CRS, and the CRMs in the event previously unknown cultural resource sites or materials are encountered, or if known resources may be impacted in a previously unanticipated manner (discovery). Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event of a discovery, the halting or redirection of construction shall remain in effect until the CRS has determined the discovery is categorically treated as not significant as defined in the research design below, or all of the following have occurred:

1. the CRS has notified the project owner, and the CPM has been notified within 24 hours 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, the project owner, and the CPM have conferred and determined what, if any, data recovery or other mitigation is needed; and
3. any necessary data recovery and mitigation has been completed.

A research design shall be prepared to identify the information values that may be contained in a typical cultural resource deposit. The research design shall provide guidance for determining the significance of cultural resource deposits and provide a list of those resources that shall be categorically treated as not significant. The design shall provide justification for decisions on significance and methodology for determining the age of deposits.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt construction activities in the vicinity of a cultural resource find, and that the CRS or project owner shall notify the CPM immediately (no later than the following morning of the incident or Monday morning in the case of a weekend) of any halt of construction activities, including the circumstances and proposed mitigation measures. The project owner shall provide the CRS with a copy of the letter granting the authority to halt construction.

At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM a research design developed by the CRS for review and approval.

CUL-7 If any cultural materials are collected as identified in the research design, following the filing of the CPM-approved CRR with the appropriate entities the project owner shall ensure that all cultural resource materials, maps, and data collected during data recovery and mitigation for the project are delivered to a public repository that meets the U.S. Secretary

of Interior requirements for the curation of cultural resources. The project owner shall pay any fees for curation required by the repository.

Verification: The project owner shall ensure that all recovered cultural resource materials are delivered for curation within 30 days after providing the CPM-approved CRR.

For the life of the project, the project owner shall maintain in its compliance files copies of signed contracts or agreements with the public repository to which the project owner has delivered for curation all cultural resource materials collected during data recovery and mitigation for the project.

D. GEOLOGY AND PALEONTOLOGY

The California Environmental Quality Act (CEQA) directs the lead agency to consider whether a project will cause adverse impacts to a unique geological feature or paleontological resource. (Cal. Code of Regs., tit. 14 §15000 et seq., App. G.) CEQA also requires an analysis of whether a project may cause impacts by exposing persons or structures to geologic hazards. This section reviews the project's potential impacts on significant geological and paleontological resources. We also evaluate whether project-related activities could result in public exposure to geological hazards; and if so, whether proposed mitigation measures will adequately protect public health and safety.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The IEEC site is located within the Peninsular Ranges geomorphic province at the southern end of the Perris Valley, Riverside County, California. This area, within the Peninsular Ranges, is characterized by mountains to the west and east and consists of a broad, nearly flat plain. Exploration at the site encountered a surficial light brown, dense to very dense, silty sand overlying alluvium. (Ex. 1, p. 5.5-1; Ex. 67, p. 6.2-2.)

1. Potential for Seismic Events

The project is located within Seismic Zone 4. The closest known active fault is the San Jacinto (San Jacinto Valley segment) Fault, located approximately 10-1/2 miles northeast of the site. A second active fault, the San Jacinto (Anza segment) Fault, is located 14 miles to the east. Other active faults within the vicinity of the site include the Elsinore (Glen-Ivy and Julian segments) and the San Andreas (Southern segment) Faults. (Ex. 1, pp. 5.5-4, 5.5-7.) Although the San Andreas fault zone is of primary concern to Riverside County residents, the San Jacinto and Elsinore fault zones are also active and potential sources of

major earthquakes. (Ex. 1, p. 5.5-13.) Seismic ground shaking is the most likely activity to affect the site. (Ex. 1, p. 5.5-17.) The California Building Code (CBC) designates a design ground acceleration of 0.4g for the entire project. (Ex. 67, p. 6.2-3.)

Liquefaction is a nearly complete loss of soil shear strength that can occur during a seismic event. Dynamic compaction of soils results when relatively unconsolidated granular materials experience vibration associated with seismic events. The evidence of record demonstrates that the site is underlain by hard sandy silts and very dense silty sands, and the depth to ground water is approximately 78.5 feet, therefore the potential for liquefaction and dynamic compaction is negligible. (Ex. 1, p. 5.5-18; Ex. 67, p. 6.2-4.)

Ground subsidence is typically caused when ground water is drawn down by irrigation activities such that the effective unit weight of the soil mass is increased, which in turn increases the effective stress on underlying soils, resulting in consolidation/settlement of the underlying soils. Since the IEEC will obtain recycled water from the Eastern Municipal Water District via a new recycled water pipeline to the site, significant draw down of the water table due to IEEC operations is not anticipated. The evidentiary record shows that the potential for ground subsidence is low. (Ex. 67, p. 6.2-4.)

Expansive soils shrink and swell with wetting and drying. The site is generally underlain by silty sand, clayey sand, and sandy silt soils; therefore there is a low potential for expansion in the clayey sand soils. (Ex. 1, App. G.) The evidence also indicates that because the project site and linear routes are generally topographically flat, the potential for landslides is negligible. (Ex. 67, p. 6.2-5.)

2. Potential Impacts to Geological/Paleontological Resources

The uncontroverted evidence in the record demonstrates that there are no known geologic or mineralogic resources located at or immediately adjacent to the proposed IEEC site. Applicant conducted a paleontologic resources field survey and a sensitivity analysis for the proposed project site and linear routes. No significant fossil localities were identified at the IEEC site or associated linear facilities. (Ex. 67, p. 6.2-5.)

Since the IECC site lies in an area which exhibits minor geologic hazards and no known geologic or mineralogic resources, the evidence of record shows that the potential for significant adverse cumulative impacts to the project from geologic hazards, and to potential geologic, mineralogic, and paleontologic resources from the proposed project is low. (Ex. 67, p. 6.2-6.)

Conditions **PAL-1** through **PAL-7** ensure that any potential impacts on unknown paleontological resources will be reduced to insignificant levels should they be encountered during project-related activities. These Conditions of Certification require the project owner to implement a Paleontological Resources Monitoring and Mitigation Plan to minimize impacts to any newly discovered fossil materials encountered at the site and along the linear alignments.

FINDINGS AND CONCLUSIONS

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

1. The project is located in Seismic Zone 4, which presents significant earthquake hazards.

2. The project will be designed to withstand strong earthquake shaking in accordance with the California Building Code requirements for Seismic Zone 4.

3. Final project design will include measures to mitigate potential risk from ground rupture, liquefaction, hydrocompaction, landslides, expansive soils, and subsidence associated with strong seismic shaking.

4. There is no evidence of geological or paleontological resources at the project site.

5. To prevent impacts to unknown sensitive paleontological resources, the project owner will implement a Paleontological Resources Monitoring and Mitigation Plan.

6. With implementation of the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards relating to geological and paleontological resources as identified in the pertinent portion of **Appendix A** of this Decision.

The Commission therefore concludes that implementation of the Conditions of Certification, below, ensure that project activities will not cause adverse impacts to either geological or paleontological resources or expose the public to geological hazards.

CONDITIONS OF CERTIFICATION

General Conditions of Certification with respect to Geology are covered under Conditions of Certification **GEN-1**, **GEN-5**, and **CIVIL-1** in the **FACILITY DESIGN** section. Conditions of Certification for Paleontology are as follows:

PAL-1 The project owner shall provide the 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 report, the project owner shall obtain CPM approval of the replacement. The project owner shall submit to the CPM, to keep on file, resumes of the qualified Paleontological Resource Monitors (PRMs). If the PRMs are replaced, resumes of the replacement PRMs shall also be provided to the CPM.

The PRS resume shall include the names and phone numbers of contacts. 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 or 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. in addition, the PRS shall have 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 the project as necessary. Paleontologic resource monitors (PRMs) shall have the equivalent of the following qualifications:

1. BS or BA degree in geology or paleontology and one year experience monitoring in California; or
2. AS or AA in geology, paleontology, or biology and four years experience monitoring in California; or
3. 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 30 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 and 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 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. 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 Paleontological Resource Specialist is proposed to the CPM for consideration.

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 and all linear 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 the plan and profile drawings for the utility lines would normally be acceptable for this purpose. The plan drawings shall show the location, depth, and extent of all ground disturbances and may be 1 inch = 40 feet to 1 inch = 100 feet range. If the footprint of the power plant or linear facility changes, the project owner shall provide maps and drawings reflecting these changes to the PRS and CPM.

If construction of the project will proceed 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. Prior to work commencing 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 consults weekly with the project superintendent or construction field manager to confirm area(s) to be worked during the next week, 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.

If there are changes to the footprint of the project, revised maps and drawings shall be provided 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 5 days of identifying the changes.

PAL-3 The project owner shall ensure that the PRS prepares, and the project owner shall submit 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 a basis for discussion in the event that 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 the Vertebrate Paleontology (SVP, 1995) and shall include, but not be limited to, the following:

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 the PRMMP procedures;

Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and all Conditions for Certification;

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;

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 beds;

A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed schedule for the monitoring;

A discussion of the procedures to be followed in the event of a significant fossil discovery, including notifications;

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;

Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontology standards and requirements for the curation of paleontological resources;

Identification of the institution that has agreed to receive any 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

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 project owner evidenced by a signature.

PAL-4 Prior to ground disturbance and for the duration of construction, the project owner and the PRS shall prepare and conduct weekly CPM-

approved training for all project managers, construction supervisors, and workers who are involved with or operate ground disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved worker training. Worker 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 any other areas of interest or concern.

The Worker Environmental Awareness Program (WEAP) shall address the potential to encounter paleontological resources in the field, the sensitivity and importance of these resources, and the legal obligations to preserve and protect such resources.

The training shall include:

- A discussion of applicable laws and penalties under the law;
- For locations of high sensitivity, good quality photographs or physical examples of vertebrate fossils that may be expected in the area shall be provided;
- 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;
- 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;
- An informational brochure that identifies reporting procedures in the event of a discovery, a Certification of Completion of WEAP form signed by each worker indicating that they have received the training; and 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 the workers are 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 on using a video for interim training.

If an alternate paleontological trainer is requested by the owner, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval. Alternate trainers shall not conduct training prior to CPM authorization.

The project owner shall provide in the Monthly Compliance Report (MCR) the WEAP copies of the Certification of Completion forms with the names of those

trained and the trainer or type of training 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 potentially fossil-bearing materials have been identified. 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 potentially significant paleontological resources are encountered in the judgment of the PRS. 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 different from the accepted schedule presented 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. 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) keeps a daily log of monitoring 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 immediately notifies the CPM of any incidents of non-compliance with any paleontological resources Conditions of Certification. 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 immediately (no later than the following morning after the find, or Monday morning in the case of a weekend) of any halt of construction activities.

   The project owner shall ensure that the PRS prepares a summary of the monitoring and other paleontological activities that will be placed in the Monthly Compliance Reports. The summary shall include the name(s) of PRS or monitor(s) active during the month; general descriptions of training and monitored construction activities and general locations of excavations, grading, etc. A section of the report shall include the geologic units or subunits encountered; descriptions of sampling within each unit; and a list of fossils identified in the field. A final section of the report shall

address any issues or concerns about the project relating to paleontologic monitoring including any incidents of non-compliance and any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the project 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.

PAL-6 The project owner, through the designated PRS, shall ensure the collection, preparation for analysis, analysis, identification and inventory, the preparation for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during the monitoring, data recovery, mapping, and mitigation activities related to the project.

Verification: The project owner shall maintain in their 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 completion and approval of the CPM-approved PRR. The project owner shall be responsible to pay any curation fees required by the museum for fossils collected and curated as a result of paleontological monitoring and mitigation.

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 submitted to the CPM for review and approval.

The report shall include, but not be 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.

Verification: Within 90 days after completion of ground disturbing activities, including landscaping, the project owner shall submit the Paleontological Resources Report under confidential cover to the CPM.

VII. LOCAL IMPACT ASSESSMENT

All aspects of a power plant project affect to some degree the community in which it is located. The impact 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, traffic and transportation, visual resources, noise, and socioeconomics.

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 land uses.

Summary and Discussion of the Evidence

The proposed IEEC will be built on an approximately 35-acre portion of a 45.8-acre parcel south of the community of Romoland in an unincorporated portion of Riverside County.

1. The Site

The project site is designated by the Riverside County Comprehensive General Plan as Industrial, and zoned by the County Zoning Ordinance as M-H (Manufacturing, Heavy). The site is within Area 3 of the County's Menifee North Specific Plan which has a land use designation of "Industrial Park", and a zoning designation of "Industrial" which reflects the County's M-H zone. The Menifee North Specific Plan is both a Riverside County Comprehensive General Plan Amendment and a County Zoning Ordinance Amendment. (Ex. 1, § 5.7; Ex. 67, p. 5.5-5.)

The proximity of the IEEC site to nearby sensitive receptors such as residential areas, schools, and churches (e.g., Romoland Elementary School, Headstart Daycare) has the potential to create air quality, public health, visual, and noise impacts to these sensitive receptors. These potential impacts are addressed in greater detail in the **AIR QUALITY**, **PUBLIC HEALTH**, **VISUAL RESOURCES, and NOISE** sections of this Decision.

2. Potential Impacts

a) Conversion of Farmland

Historically, the IEEC site has been used to grow non-irrigated wheat. The California Department of Conservation (DOC) and the local agricultural committee classified one acre of the nearly 46-acre site as Farmland of Local Importance with prime soils. However, the site has not been irrigated. Thus, the acre of prime soils is not prime farmland. (Ex. 67, p. 5.5-17.) Similarly, 2.6 acres of fallow, unirrigated land classified as prime soils and Farmland of Local Importance will be permanently removed from agricultural production for construction of the gas compressor station. While conversion of Prime, Statewide, or Unique Farmlands can be considered a significant impact under CEQA, conversion of Farmland of Local Importance is not considered a significant impact. (*Ibid*.)

There will be temporary construction impacts to prime farmland along sections of the natural gas pipeline. However, the lines will be buried at a depth sufficient to allow for continued farming and will not permanently impact farmland. (*Ibid*.)

b) Consistency with local Land Use Laws, Ordinances, Regulations and Standards (LORS)

Staff examined the proposed project for consistency with the Menifee North Specific Plan and other applicable Riverside County LORS. The City of Perris

LORS apply only to the portions of the project within the city boundaries. (Ex. 67, p. 5.5-16.) The Riverside County General Plan Goals and Policies are set forth in Land Use Table 1 below.

LAND USE TABLE 1
Comprehensive General Plan Goals and Policies
Relevant to the Proposed Project

Riverside County Comprehensive General Plan Goals
Land Use Element – Goal 4. The development of those areas where necessary public services can be provided and development is compatible with surrounding land uses.
Land Use Element – Goal 6. Orderly industrial development, which includes a variety of types of industry and the promotion of adequate supplies of suitable and properly distributed industrial land.
Perris Valley Land Use Planning Area Profile
Land Use Constraints – Schools within this Land Use Planning Area are already overcrowded and increased development will create further impaction, which would need to be mitigated.
Perris Valley Land Use Planning Area – Land Use Policies
Land uses within the Perris Valley Land Use Planning Area generally should be Category I (Heavy Urban – characterized by intensive commercial and industrial uses and higher residential densities) and Category II (Urban – characterized by many types and intensities or residential, commercial, and industrial land uses) land uses within the Sphere of Influence of the City of Perris and within the I-215 corridor and freeway access area.
Industrial land uses will generally be located near March Air Force Base and north of the City of Perris, west of I-215 and the BNSF railroad tracks.
The future development pattern within the Romoland Area should be a continuation of the existing pattern of Category III (Rural – characterized by rural land uses with lower residential densities and fewer public facilities and improvements) land uses.
Romoland Community Area Land Use Policies
3. Land Use Policy – Agriculture: Areas with prime agricultural land, Class I and II soils, shall be retained in agricultural land use to the greatest extent feasible, including economic considerations.
Public Facilities and Services Element
Utilities – The County recognizes the need for new utility services with growth and new development and has stated that it will provide necessary utilities in areas of minimal environmental and community impact. The County Planning Department will provide a clear statement of policies and standards on utilities for use in review by the California Public Utilities Commission and the utility companies and work with appropriate companies, agencies, and County departments to develop a planned approach to the future location of electrical utilities.
Energy Resources – The County's energy resource objectives include providing sites needed for power generation plants to provide adequate electrical energy for the County and the Southern California region while working with the Public Utilities Commission and utility companies to determine new sites for plants. Plants are to be sited at appropriate distances from existing communities and land use impacts must be consistent with General Plan.
Source: RIVERSIDE, 1992a

(Ex. 67, p. 5.5-2.)

The M-H Zone is the heaviest industrial zoning designation available in the County of Riverside ("County") and, therefore, the most applicable for development of a power plant. Power plants are not specifically addressed as part of the M-H Zone, but may be permitted under a conditional use permit. (Ex. 1 s/b Ex. 2, p. 7.1-4.) The County verified that the project will comply with all applicable local LORS. (Ex. 62, Letter of March 5, 2002.) This letter also indicated that encroachment permits would be issued for the natural gas supply line and the non-reclaimable wastewater pipeline. (Ex. 62, pp. 2-3.) Staff also concluded that the project would be consistent with other local LORS. (*See* Ex. 67, pp. 5.5-12 to 5.5-16, **Land Use Table 4**.)

c) Compatibility with Existing and Planned Uses

The Inland Empire region is experiencing rapid growth and development, including development in the vicinity of the project site. (*See* Ex. 67, p. 5.5-21, **LAND USE TABLE 6 of the Final Staff Assessment.)** The evidence of record shows that if planned residential developments are fully implemented, the new developments will be located within one-quarter mile of the proposed IEEC. However, the project site is immediately surrounded by long-established existing heavy industrial and manufacturing facilities. Surrounding uses include: an asphalt production facility, the Burlington Northern and Santa Fe Railroad, an asphalt recycling storage facility, non-conforming rural residences and heavy construction equipment storage. (Ex. 2, p. 7.1-4.) In addition, given the industrial land use and zoning designations for lands surrounding the IEEC site, it is likely that the pattern of development will continue to be industrial. (Ex. 67, p. 5.5-18.)

The evidentiary record also indicates that the IEEC will be compatible with planned land uses. The IEEC will be located in the Menifee North Specific Plan Planning Area 3, which is an industrial area. In addition, the County of

Riverside's General Plan Update land use designation for the site will be Heavy Industrial, which in effect will represent a continuation of the IEEC site's current land use designation. The Heavy Industrial land use designation will be compatible with proposed site's current zoning designation of M-H (Manufacturing, Heavy). (*Ibid.*)

Potential Impact to Romoland School District

Prior to the IEEC proposal, the Romoland School District (the District) had proposed five new sites for school development in the Romoland area. The proposed school site, referred to as the Ashby Site, is located on the west side of Antelope Road approximately 1,625 feet south of the proposed IEEC site. (Ex. 67, pp. 5.5-10, 5.5-18.)

The State of California Department of Education (CDE) is responsible for approval of all new school sites and any construction projects for existing and new sites. The CDE has the authority to grant approval of sites with potential safety hazards based on feasibility and risk analysis studies. (Ex. 67, p. 5.5-19; **Land Use Table 5** provides applicable CDE Site Selection Criteria.) The CDE has directed the District to pursue an alternative site location for the new school originally planned for the Ashby site.[33] The District is planning to use the alternative McCall Mesa site. (Ex. 67, p. 5.5-20.)

[33] The CDE letter states that it is the CDE's consistent practice, "…wherever possible, to site schools at least ¼ mile [i.e., 1,320 feet] away from major industrial facilities such as the IEEC" (Ex. 67, p. 5.5-19.)

Intervenor Romoland School District sent a letter[34] to the IEEC Committee on July 28, 2003, expressing the District's concerns regarding the relocation of the proposed Ashby School site. The District states that in order to provide infrastructure to the new proposed McCall Mesa site, it will be required to spend about $2 million more than if the Ashby site were used because the Ashby site had infrastructure available at the site.[35] The District previously provided similar comments to Staff which were included in the FSA. (Ex. 67, pp. 5.5-20, 5.5-27.)

Although neither Applicant nor Staff identified any significant adverse impacts to either the proposed Ashby School site or the existing Romoland School, the Commission further considered the potential impacts on the District. We agree with Staff that the evaluation of impacts in **Land Use Table 5** (Ex. 67, p. 5.5-19) indicates that the IEEC would not conflict with any of the applicable CDE school siting criteria. The evidence of record shows that the CDE acknowledges the proposed school site is over ¼ mile away from the proposed IEEC, and that there are alternatives to the Ashby site. (Ex. 67, p. 5.5-20.) There is not any evidence in the record supporting the District's assertion that the relocation of the Ashby site will cost the District $2 million or that those costs are required because of the IEEC. Furthermore, a feasible alternative to the Ashby site exists. Therefore, we conclude that the proposed IEEC project's potential impacts on planned school facilities will be less than significant.

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[34] The letter from the District was not entered into evidence by Romoland School District because the District did not participate in either the Prehearing Conference or the Evidentiary Hearings. However, the District's comments were considered by the Committee as agency comment.

[35] Romoland School District proposed two Socioeconomic Conditions of Certification to address their financial concerns. We have included that discussion here in the **Land Use** portion of the Decision.

3. Cumulative Impacts

The Romoland area is expected to experience extensive residential growth for the next few years. In the vicinity of the proposed project in the Southern Perris Valley region, developers have plans for construction of large areas such as the Menifee North, Menifee Ranch, and Winchester Hills regions, characterized as primarily mixed use with residential, commercial, and light industrial sectors. The evidence of record indicates that the proposed project is not expected to make a significant contribution to regional impacts related to new development and growth.

The IEEC, in combination with other proposed projects in the region, is expected to contribute to a regional loss of open space and agricultural land. The evidentiary record demonstrates that the acreage of agricultural land converted as a result of the proposed project is small relative to other projects in the County and would have minimal impact. Thus, the project's contribution to a loss of open space and agricultural land will not be cumulatively significant.

FINDINGS AND CONCLUSIONS

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

1. The IEEC is located on an approximately 35-acre portion of a 45.8-acre parcel south of the community of Romoland in an unincorporated portion of Riverside County.

2. The site is located in the County of Riverside Manufacturing-Heavy District, which allows power plants with a conditional use permit.

3. The plant would not be incompatible with existing or planned land uses, as it is consistent with the uses and general development pattern for the area.

4. The project would not be incompatible with the conducting of agricultural land uses on neighboring properties or the operation of adjacent industrial facilities.

5. There is no potential for the IEEC to physically divide the community nor is there evidence of potential cumulative impacts.

6. The impact on planned school facilities will be less than significant.

7. An alternative school to the Ashby site is feasible.

8. Implementation of the Condition of Certification, below, will ensure that the IEEC complies with all applicable laws, ordinances, regulations, and standards identified in the pertinent portion of **Appendix A** in this Decision.

The Commission therefore concludes that construction and operation of the IEEC will not result in direct, indirect, or cumulative land use impacts. Implementation of the Condition of Certification, below, ensures that the IEEC will comply with all applicable laws, ordinances, regulations, and standards (LORS) related to land use.

CONDITION OF CERTIFICATION

LAND-1 Prior to the start of construction, the project owner shall obtain the necessary approval(s) from the County and complete any lot merger or lot line adjustments necessary to ensure that the proposed project, including associated facilities, improvements and buffer areas which would allow adjacent parcels to be developed to their full extent as presently zoned, will be located on a single legal lot.

Verification: Within 30 days prior to the start of construction, the project owner shall provide the CPM with proof of completion of the above adjustments or satisfactory evidence that no such adjustments are necessary.

B. TRAFFIC AND TRANSPORTATION

In this section, we examine the extent to which the proposed project will affect the regional and local transportation systems. In some cases, construction and operation of the project have the potential to adversely impact the transportation system in the vicinity. During the construction phase, large numbers of workers arriving and leaving during peak traffic hours and the delivery of large pieces of equipment could increase roadway congestion and affect traffic flow. During plant operation, there is reduced potential for impacts due to the limited number of vehicles involved; operations and maintenance traffic will be minimal but a slight increase in deliveries of hazardous materials is expected. In all cases, transportation of hazardous materials must comply with federal and state laws.

The evidentiary record contains a review of the relevant roads and routings in the vicinity; the potential traffic problems associated with those routes; the anticipated number of deliveries of oversized/overweight equipment; the anticipated encroachments upon public rights-of-way; the frequency of and routes associated with the delivery of hazardous materials; and the availability of alternative transportation methods.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The IEEC project site is located in an unincorporated portion of Riverside County approximately 15 miles southeast of the city of Riverside, six miles west of the City of Hemet and four miles southeast of the City of Perris. It is near the communities of Romoland and Sun City, and southeast of the intersection of Ethanac Road and Antelope Road. Regional access to the site is provided by two major highways, I-215 from the north and south, and SR 74 from the east and west. I-215 provides access to the Moreno Valley and the greater Riverside area north of the project site. SR 74 provides access to the cities of Hemet and

San Jacinto east of the project site, and the City of Perris located west of the site. (Ex. 1, § 5.11.1.1; Ex. 67, p. 5.10.3.)

Ethanac Road is the primary east-west road providing access to the project site and also provides access to I-215. Normal access to the IEEC will be from a 24-foot wide, 1,000 feet long extension of Antelope Road from its current terminus south of Ethanac Road. Currently, Antelope Road is primarily an unimproved road oriented in a north-south direction. Other north/south and east/west collector roads near the IEEC site include Mapes Road, Watson Road, McLaughlin Road, Rouse Street, Menifee Road, Palomar Road, Trade Winds Road, and Sherman Road. (Ex. 67, pp. 5.10-3, 5.10-4.)

Traffic and Transportation Table 5.11-4, **Existing Traffic Characteristics of Local Highways and Roads in the Project Area** (Ex. 1, Table 5.11-4), replicated below from the AFC, identifies the annual average daily traffic (ADT), annual average peak-hour traffic, annual average percent of truck traffic, design capacity in vehicles per day, and level of service (LOS)[36] for highways in the vicinity of the project. These traffic estimates are presented for various road segments between mileposts or junctions on each road. (Ex. 1, Table 5.11-4; Ex. 67, p. 5.10-6.)

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[36] LOS levels refer to the average vehicle capacity and the flow of traffic. LOS A denotes free flow of traffic while LOS F represents severe traffic congestion and a potential for delays. A LOS of C or D is usually considered acceptable for planning purposes, whereas LOS E and F are considered unacceptable. (Ex. 1, Table 5.11-4; Ex. 67, p. 5.10-6.)

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Table 5.11-4 Existing Traffic Characteristics of Local Highways and Roads in the Project Area

Road or Highway	Existing Traffic		Capacities		V/C (LOS)	
	AADT[1]	Peak Hour Traffic[2]	AADT	Peak Hour Traffic	AADT	Peak Hour Traffic
I-215 (4-lane urban freeway)						
North of Mapes Road	44,000[3]	4,300[3]	80,000	8,000	0.55 (A)	0.54 (A)
Mapes Road to Ethanac Road	44,000[3]	4,300[3]	80,000	8,000	0.55 (A)	0.54 (A)
South of Ethanac Road	44,000[3]	4,200[3]	80,000	8,000	0.55 (A)	0.53 (A)
SR 74 (4-lane expressway)						
West of Antelope Road	19,500[3]	1,600[3]	40,000	7,200	0.49 (A)	0.22 (A)
Ethanac Road to Palomar Road	21,700[3]	1,750[3]	40,000	7,200	0.54 (A)	0.24 (A)
Palomar Road to Menifee Road	21,700[3]	1,750[3]	40,000	7,200	0.54 (A)	0.24 (A)
Ethanac Road (2-lane collector)						
Murrieta Road to I-215	1,236	124	12,000	3,400	0.10 (A)	0.04 (A)
I-215 to SR 74/BNSF Railroad	3,855	386	12,000	3,400	0.32 (A)	0.11 (A)
Matthews Road (2-lane collector)						
Ethanac Road to Palomar Road[4]	3,855	386	12,000	3,400	0.32 (A)	0.11 (A)
Palomar Road (2-lane collector)						
Matthews Road SR 74[4]	3,855	386	12,000	3,400	0.32 (A)	0.11 (A)
Menifee Road (2-lane collector)						
SR 74 to Watson Road	4,181	418	12,000	3,400	0.35 (A)	0.12 (A)
Matthews Road to Rouse Street	6,184	618	12,000	3,400	0.51 (A)	0.18 (A)

(1) Source: County of Riverside Transportation Department (Riverside County 2000).

(2) Based on 10% of ADT, or as noted.

(3) Source: Caltrans (1999).

(4) Assumes that AADT will be the same for these road segments as is reported for Ethanac Road once the planned closure of access from Ethanac Road to SR 74 is implemented.

1. Construction Impacts

Construction of the IEEC will take about 22-24 months and will employ an average construction workforce of 250 workers, with a maximum of 490 construction jobs. (Ex. 1, pp. 3-50, 3-53, 5.8-6.) The peak period is expected to occur 12 to 15 months after the start of construction. As the table below illustrates, for the peak month of construction activity, the project will generate at total of 732 actual one-way vehicle trips per day.[37] (Ex. 67, p. 5.10-8.)

Trip Generation Summary Table
Construction Phase

	Daily Vehicle Round Trips		**Daily Vehicle One-Way Trips**		**Daily PCE (1) One-Way Trips**		**Peak Hour PCE (2, 4) Trips**	
	Average	Peak (2)	Average	Peak (2)	Average	Peak (2)	Average	Peak (2)
Workers (3)	166	326	332	652	332	652	132	260
Delivery Trucks	15	40	30	80	60	160	3	8
Total	**181**	**366**	**362**	**732**	**392**	**817**	**135**	**268**

A passenger car equivalent (PCE) factor of 2.0 was applied to delivery trucks and heavy trucks.

(1) "Peak" refers to scheduled peak quarter of construction activity (15 months from start of construction).
(2) Assumes 1/3 of workers carpools (1.5 persons per vehicle).
(3) Assumes 80% of workers and 10% or deliveries arrive or depart during peak traffic hour.
(Ex. 67, p. 5.10-9.)

Approximately 80% of the construction workers will arrive or depart during peak traffic hours; 10% of delivery trucks will arrive or depart during peak traffic hours. (Ex. 67, p. 5.10-9.)

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[37] It was assumed that one third of the workers would carpool, translating into an average vehicle occupancy of 1.5 persons per vehicle. Truck trips were converted into Passenger Car Equivalent (PCE) trips by applying a factor of 2.0 to reflect the additional impact that large trucks have on street systems operations. For the peak construction month, the project will generate about 817 PCE one-way trips per day. (Ex. 67, p. 5.10-8.)

Although the combination of commute, truck and visitor traffic associated with construction of the project will increase the volume of local traffic, all of the routes will remain operating at LOS A even during the construction period. Thus, no significant adverse impacts on traffic are expected as a result of construction of the IEEC. (Ex. 1, p. 5.11-18; Ex. 67, p. 5.10-11.)

Construction of the linear facilities—natural gas pipeline, non-reclaimable wastewater pipeline and transmission interconnection—will be of short duration, employ a small number of workers, and rely on a small number of truck deliveries. Therefore, the impacts to traffic and transportation during construction is expected to be insignificant. (Ex. 67, pp. 5.10-10, 5.10-11.)

The evidentiary record demonstrates that there are no identified roadway features (e.g., sharp curves), dangerous intersections or incompatible uses in the project's vicinity that would cause a substantial increase in roadway hazards. Condition of Certification **TRANS-6** requires that during plant construction, a traffic control plan will be developed and enacted. This plan will ensure that traffic flow and access on local roads and intersections will not seriously degrade existing traffic patterns. The traffic control plan will outline what measures will need to be taken on a month-to-month basis based on the expected construction traffic volumes and will include specific best management practices. (Ex. 67, p. 5.10-11.)

Traffic control will be coordinated with BNSF to ensure motorists are aware of any railroad trips during construction. (Ex. 67, p. 5.10-13.) The evidence shows that the crossing of railroad tracks by Ethanac Road east of the project site does not represent a substantial roadway hazard because the usage of the railroad is very low (2 – 3 trains per week at 10 MPH) and project traffic using that crossing will be minimal. (*Ibid*.)

Condition of Certification **TRANS-8** requires the project owner to place gravel on the currently unpaved section of Antelope Road between Ethanac Road and the project site prior to commencing construction and, after construction, pave and extend Antelope Road and build a road for circulation within the IEEC. (Ex. 67, pp. 5.10-12, 5.10-16.)

2. Operational Impacts

The operation of the IEEC will require a labor force of approximately 23 full-time employees, with a maximum of 15 employees during the day shift. (Ex. 67, p. 5.10-12.) Sixteen parking spaces will be available for employee and visitor vehicles on a paved lot adjacent to the administration building. The majority of the permanent workforce will likely reside in the greater Riverside area; their preferred route to work will be south on I-215, east on Ethanac Road, and south on Antelope Road to the project site. This travel route will easily accommodate the operations related traffic. No significant long-term traffic impacts are expected as a result of the IEEC's operational workforce and visitor traffic. (*Ibid.*)

Trucks will periodically deliver and pick-up replacement parts, lubricants, aqueous ammonia, sulfuric acid, and other consumables. (Ex. 1, p. 5.11-11.) During operation, on average, there will be two truck deliveries (round trips) to the project site per day. (Ex. 1, p. 5.11-21.) The anticipated travel routes for materials delivery will be south on I-215 from the greater Riverside area, then east on Ethanac Road and south on Antelope Road to the project site. The existing highway and roadway system will not be significantly impacted by the increase in truck traffic associated with the operation of the IEEC. (Ex. 67, p. 5.10-12.) Licensed hazardous waste transporters will access the IEEC via Ethanac and Antelope Roads and will not cross the railroad tracks on Ethanac Road. (Ex. 67, p. 5.10-14.)

Potential impacts from the transportation of hazardous substances will be mitigated to insignificance by compliance with federal and state standards established to regulate the transportation of hazardous substances. Condition of Certification **TRANS-3** addresses compliance with these regulations.[38] The State Department of Motor Vehicles specifically licenses all drivers who carry hazardous materials.[39] Drivers are required to check for weight limits and conduct periodic brake inspections. Commercial truck operators handling hazardous materials are also required to take instruction in first aid and procedures on handling hazardous spills. The California Vehicle Code and the Streets and Highways Code are equally important to ensure that the transportation and handling of hazardous materials are done in a manner that protects public safety. Enforcement of these statutes is under the jurisdiction of the California Highway Patrol. (Ex. 67, p. 5.10-14.)

Furthermore, Condition of Certification **TRANS-7** requires the project owner to ensure that all project-related vehicles travel on Antelope Road from the project site to Ethanac Road in order to access SR 74, I-215, and other areas. Project vehicles will not travel on Antelope Road north of Ethanac Road in order to avoid the school located on Antelope Road near Monroe Avenue. (Ex. 67, p. 5.10-16.)

The Perris Valley Airport and Parachuting Center is the only airport with a runway of at least 3, 200 feet that is located within 20,000 feet (3.3 nautical miles) of the proposed IEEC site. (Ex. 67, p. 5.10-12.) The Federal Aviation Administration (FAA) issued a determination that the project would not create a hazard to aviation. (Ex. 77.)

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[38] The handling and disposal of hazardous substances are addressed in the **WASTE MANAGEMENT** and the **HAZARDOUS MATERIALS MANAGEMENT** sections of this Decision.

[39] The Riverside County General Plan does not specifically address hazardous materials transportation and permits. However, the IEEC will obtain the applicable permits required by the State of California for the transportation of hazardous materials and waste. (Ex. 1, p. 5.11-11.)

Emergency vehicles will enter through the plant's main entrance on Antelope Road and then return to Ethanac Road via Antelope Road. The evidence of record demonstrates that the IEEC will not impede or affect emergency access. Therefore, no impact is expected. (Ex. 67, pp. 5.10-13, 5.10-14.)

The Conditions of Certification require the project owner to comply with all federal, state and local LORS. Condition of Certification **TRANS-1** requires the project owner to obtain and comply with all necessary encroachment and transportation permits from Caltrans, Riverside County, City of Perris, and other jurisdictions regarding the transportation of heavy equipment and hazardous materials and any construction activity within the public right-of-way. (Ex. 67, p. 5.10-16.)

3. Cumulative Impacts

The evidence shows that the 35-acre IEEC site is part of the Menifee North Specific Plan and that the construction and operational traffic generated by the IEEC will be less than the anticipated traffic generated under the Menifee North Specific Plan. Given the relatively low density of other surrounding land uses and the adequate capacity of surrounding roadways, the evidence establishes that the addition of IEEC construction and operation phase traffic is not expected to have any significant impacts. (Ex. 67, p. 5.10-15.)

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission finds as follows:

1. The addition of traffic associated with construction or operation of the IEEC Project will not have a significant effect on existing Levels of Service (LOS) at local intersections in the project vicinity.

2. The construction of the project linear facilities will not result in a significant effect on traffic due to the temporary nature of the construction period and the changing locations for construction activities.

3. Potential adverse impacts associated with the transportation of hazardous materials during construction and operation of the project will be mitigated to insignificance by compliance with applicable federal and state laws.

4. Potential cumulative impacts to traffic and transportation resulting from construction and operation of the project will be insignificant.

5. Implementation of the Conditions of Certification, below, will ensure that both construction and operation of the project comply with all applicable laws, ordinances, regulations, and standards on traffic and transportation as identified in the pertinent portion of **Appendix A**.

The Commission therefore concludes that construction and operation of the project, as mitigated herein, will not result in any significant, direct, indirect, or cumulative adverse impacts to the local or regional traffic and transportation system, and will comply with all applicable LORS.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall comply with California Department of Transportation (Caltrans) and Riverside County limitations on vehicle sizes and weights. Overload Limit Permits will be obtained from Caltrans as necessary. In addition, the project owner or its contractor shall obtain other necessary transportation permits from Caltrans and all relevant jurisdictions for both rail and roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any oversize and overweight transportation permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

TRANS-2 The project owner or its contractor shall comply with California Department of Transportation (Caltrans), City of Perris, and Riverside County limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans, Riverside County, City of Perris, and all other relevant jurisdictions.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any encroachment permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

TRANS-3 The project owner shall ensure that all federal and state regulations for the transport of hazardous materials are observed.

Verification: The project owner shall include in its Monthly Compliance Reports copies of all permits and licenses acquired by the project owner and/or subcontractors concerning the transport of hazardous materials.

TRANS-4 Following completion of project construction of the IEEC and all linear facilities, the project owner shall restore Ethanac, Matthews, and Palomar Roads to their pre-construction condition unless the damage is shown not to be a result of IEEC construction activities.

Protocol: Prior to start of site preparation or earth moving activities, the project owner shall photograph, videotape, or digitally record images of Ethanac Road from I-215 to Matthews Road, Matthews Road from Ethanac Road to Palomar Road, and Palomar Road from Matthews Road to SR 74. The project owner shall provide the CEC Compliance Project Manager (CPM), Riverside County, and Caltrans (as necessary) a copy of these images. At least 60 days prior to start of site preparation or earth moving activities, the project owner shall also notify Caltrans about the schedule for project construction. The purpose of this notification is to allow Caltrans to postpone any planned roadway resurfacing and/or improvement projects until after the project construction has taken place and to coordinate construction related activities associated with other projects.

Verification: Within 30 days after completion of project construction, the project owner shall meet with the CPM, Riverside County, and Caltrans (as needed) to determine and receive approval for the actions necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible. The project owner shall provide to the CPM a letter from Riverside County stating the County's satisfaction with the road improvements.

TRANS-5 During construction of the power plant and all related facilities, the project owner shall ensure that all project-related parking occurs in designated parking areas.

Verification: At least 45 days prior to start of site preparation or earth moving activities, the project owner shall submit a parking and staging plan for all phases of project construction to Riverside County for review and comment, and to the CPM for review and approval.

TRANS-6 The project owner shall develop a construction traffic control plan that outlines what measures need to be taken on a month-to-month basis with input from Riverside County, Caltrans and the CPM. Specifically, the construction Contractor shall be required to prepare a traffic control plan

and implementation program that addresses timing of heavy equipment and building material deliveries; employee trip reduction; and signing, lighting, and traffic control device placement. The following specific best management practices will be incorporated into the construction traffic control plan:

- Truckloads will not exceed legal limits.
- Loads of material (i.e. excavated soil) will either be enclosed by vehicle covers, or wetted and loaded in the truck to provide at least one foot of free board and prevent wind blowing materials out of the truck.
- Trucks and trailers will be swept clean or hosed after unloading and before entering a public roadway.
- Mufflers, brakes, and all loose items on trucks will be maintained to minimize noise and ensure safe operation.
- Truck operations will be kept to quietest operating speeds. Drivers will be advised to avoid downshifting while driving through or near residential communities.
- Traffic control will be coordinated with BNSF to ensure motorists are aware of any railroad trips during construction.
- Traffic control will be coordinated with any construction in the vicinity of the project on the proposed Hemet to Corona/Lake Elsinore transportation corridor.

Verification: At least 30 days prior to start of site preparation or earth moving activities, the project owner shall provide the plan to Riverside County and Caltrans for review and comment, and to the CPM for review and approval.

TRANS-7 During construction and operation of the IEEC, the project owner and contractors shall ensure that all project-related traffic travels on Antelope Road from the project site to Ethanac Road in order to access SR 74, I-215, and other areas. Project traffic shall not travel on Antelope Road north of Ethanac Road so as to avoid the school located on Antelope Road near Monroe Avenue.

Verification: At least 45 days prior to start of site preparation or earth moving activities, the project owner shall provide a traffic routing plan for all phases of project construction and operation to Riverside County and Caltrans for review and comment, and to the CPM for review and approval.

TRANS-8 The project owner and contractor shall gravel the currently unpaved section of Antelope Road between Ethanac Road and the project site prior to commencing construction. Surfacing that provides adequate truck turning radii shall be in place to help facilitate safe truck-turning

movements. Upon completion of construction, the project owner and contractor shall pave and extend Antelope Road and build a road for circulation within the IEEC site. Antelope Road's 24-foot wide, 1,000-foot long extension from its current terminus south of Ethanac Road will be used to provide normal access to the IEEC site. Within the IEEC site, a 20-foot wide loop road shall provide internal circulation.

Verification: At least 45 days prior to start of site preparation or earth moving activities, the project owner shall submit plans for modifications to Antelope and San Jacinto Roads to Riverside County for review and comment, and to the CPM for review and approval. The project owner shall provide to the CPM a letter from Riverside County stating the County's satisfaction with the plans. In addition to the letter, the project owner shall provide a copy of the Signal Mitigation Program fee payment to the CPM. Within 30 days after completion of project construction, the project owner shall meet with the CPM, Riverside County and Caltrans (as needed) to determine and receive approval for the actions necessary to complete the Antelope Road extension and internal circulation. The project owner shall submit to the CPM a letter from Riverside County stating the County's satisfaction with the completed road improvements.

C. VISUAL RESOURCES

Visual resources are the natural and cultural 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 on the environment which, in this case, would focus on the project's potential to cause substantial degradation to the existing visual character of the site and its surroundings. (Cal. Code of Regs., tit. 14, § 15382, Appendix G.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Site

The power plant will be located on 45.8 acres in an unincorporated portion of Riverside County. The regional landscape consists of broad, flat alluvial plains, with small rocky hills. The area is bordered by treeless buttes rising up to 300 feet or more above the valley floor. The valleys are surrounded by arid, undeveloped hill lands. Much of the flat land on the plains is devoted to a mix of irrigated and dry-farmed field crops. (Ex. 1, p. 5.10-1.) Developed communities within the immediate project vicinity include Romoland, Perris, and Sun City. Electric transmission infrastructure is also a prominent presence in the regional landscape, with Southern California Edison's (SCE) 500 kV Valley Substation serving as the hub of the regional transmission and distribution system. (Ex. 1, pp. 5-10-1, 5.10-2.)

Although much of the project vicinity landscape has a rural or quasi-rural appearance, the landscape is transitioning into a more urban level of development. (Ex.1, p. 5.10-2.) On the west, the site is bordered by the partially paved alignment of Antelope Road, and on the east, by an unpaved section of San Jacinto Road. On the south, the site is bordered by an approximately 300-foot wide Southern California Edison transmission line right-of-way that extends

along the north side of McLaughlin Road. On the north, the site is bordered by an asphalt plant and a short segment of the BNSF rail line. (*Ibid*.) The site has no natural vegetation because of its current agricultural use. (Ex. 2, p. 7.5-3.)

2. Project Features

The most visibly prominent features of the IEEC will be two 195-foot tall HRSG stacks, two 108-foot tall HRSGs, an 80-foot tall auxiliary boiler stack, a 59-foot tall, 840-foot long cooling tower consisting of 14 cells, and a 43-foot tall recycled water tank. The two HRSG stacks are designed to be side-by-side to improve the thermal rise of exhaust steam that emanates from the stacks. (Ex. 1, p. 5.10-13.) Also, a 20-foot high sound wall will extend across the entire width of the Energy Center and switchyard in the area immediately south of the cooling tower. Chain link fencing will be installed along each of the remaining edges of the entire 25-acre enclosed site and will be used to separately enclose the switchyard, storm water detention pond, and other areas requiring controlled access. (*Ibid.*) On-site storm water runoff is proposed to be collected and directed to a sedimentation/detention basin located at the southwest corner of the site. This basin will consist of a square excavated area, approximately 250 feet on a side, surrounded by a chain-link fence. (*Ibid.*)

A new on-site switchyard will be located immediately east of the generation facilities. It will include transformers, take-off structures, and other electrical equipment and will have an industrial appearance similar to that of the components in the nearby Valley Substation. Power generated by the project will be transferred over a new 0.9-mile long, double circuit 500 kV transmission line. The new 500 kV line will be carried on lattice steel towers with a maximum height of 162 feet. (Ex. 1, p. 5.10-16.)

The new gas compressor station will be located on a 6.69-acre parcel located approximately 0.8 mile southeast of the proposed power plant site. (Ex. 1, p.

5.10-3.) The largest structure at that site will be the building that houses the compressor. The tallest of these structures will be 22.5 feet high. All equipment and structures at the compressor station will be treated with a gray-taupe color. In addition, the facility will be surrounded by a solid fence and a border of trees will be planted around the perimeter to provide screening. (Ex. 1, p. 5.10-17.) Landscaping will consist of medium height, broad leaf evergreen trees along the east, north, and west agricultural perimeters. A row of medium height deciduous trees will be planted along the south street frontage along with informal groupings of tall shrubs. (Ex. 1, Figure 5.10-4.)

3. Laws, Ordinances, Regulations and Standards (LORS)

The project will be subject to LORS of several local jurisdictions. All of the project's facilities (except the short segment of the wastewater pipeline that falls within the City of Perris) are subject to the Riverside County Comprehensive General Plan. The power plant and portions of the water lines, gas line, and transmission interconnection to Valley Substation are located within the jurisdiction of the Menifee North Specific Plan. (Ex. 67, pp. 5.12-5 to 5.12-6.) The evidence of record shows that, with the implementation of the Conditions of Certification listed below, the project will comply and be consistent with all relevant LORS. (Ex. 67, pp. 5.12-33, 5.12-40.)

Interstate 215 (I-215) south of McCall Boulevard, McCall Boulevard between I-215 and Menifee Road, and Menifee Road between McCall Boulevard and SR-74 have been designated Eligible County Scenic Highways. The evidence contains an analysis of relevant local LORS and an assessment of the project's LORS consistency. (Ex. 67, p. 5.12-6.)

2. Potential Impacts

a. Construction Phase

Construction of the power plant and linear facilities over a 24-month period may cause temporary adverse visual impacts due to the presence of heavy equipment, materials, and workforce. Activities will include site clearing and grading, ditching for construction of underground linear facilities, construction of the actual facilities, and site and rights-of-way cleanup and restoration. Construction of the gas and wastewater pipelines will involve the temporary disruption of the area along the rights-of-way by machinery, excavated piles of soil, construction vehicles, and other disturbances associated with pipeline construction. (Ex. 67, pp. 5.12.18 to 5.12-20.)

Staff evaluated the visual setting and proposed project in detail from several viewing areas represented by six key observation points. The evidence of record demonstrates that views of the laydown areas from the north and northwest will be partially screened by the large heavy equipment storage yard located on the west side of Antelope Road. Views of the laydown area from the east and northeast will be partially screened by the piles of recycled asphalt located south of Matthews Road. To provide further screening of views of the laydown area, particularly from the south, at the beginning of the construction period the project owner will place a temporary screening fence around the western, southern, and eastern boundaries of the southern laydown area, as well as along the eastern boundary of the northern laydown area. (Ex. 1, p. 5.10-23; Ex. 67, p. 5.12-19.)

While the majority of construction activities will occur during daylight hours, some of the construction activity will take place at night. (Ex. 4, p. 98.) Condition of Certification **VIS-4** ensures that significant construction lighting impacts do not occur.

The evidentiary record shows that due to the relatively short-term nature of project construction, and with the implementation of the Conditions of Certification below, adverse visual impacts that may occur during construction will be less than significant. (Ex. 67, p. 5.12-20.)

b. Operation Phase

As described above, the project will result in the introduction of sizable geometric structures with an industrial character into a rural-suburban transitional landscape. Staff conducted an analysis of operation impacts for the view areas represented by the key observation points (KOPs) selected for in-depth visual analysis. For each KOP, Staff evaluated visual contrast, project dominance, and view blockage with a concluding assessment of the overall degree of visual change caused by the proposed project. (*See* Ex. 67, § 5.12-1 et seq.; *See also* Ex. 67, Appendix VR-1.)

Lighting

The project will require nighttime lighting for operational safety and security. The lighting will be visible from all of the KOPs and their respective areas. However, the exterior lighting control measures required by Condition of Certification **VIS-5** will ensure that lighting impacts will be less than significant. **VIS-5** requires that exterior lights be hooded and directed on site and that fixtures will be of a non-glare type. Those areas where lighting is not required for normal operation, safety, or security will be provided with switched lighting circuits or motion detectors, allowing these areas to remain dark most of the time. (Ex. 1, p. 5.10-15; Ex. 68, p. 80.)

Visible Plumes

Staff conducted an independent modeling analysis of project vapor plumes associated with the HRSGs, cooling tower, and auxiliary boiler based on information provided by Applicant. (Ex. 1 § 5.10.2.3; Ex. 4, Visual Attachment I;

Ex. 10, pp. 1-3.) Additionally, Staff performed independent psychometric and dispersion modeling analyses to predict the frequency and dimensions of visible plumes for the unabated cooling tower, HRSG stacks, and auxiliary boiler. (Ex. 67, pp. 5.12-28 to 5.12-29.)

To determine whether to perform a more detailed analysis of plume impacts, Staff uses a threshold of ten percent or greater frequency of plume occurrence during seasonal[40] daylight no rain/no fog (SDNRNF) high visual contrast hours. The evidence of record demonstrates that plume frequencies for the HRSGs, cooling tower, and auxiliary boiler will not exceed the ten percent occurrence threshold and as a result, significant visual impacts will not occur. Condition of Certification **VIS-8** will ensure that the project is designed and operated as proposed such that it will not cause significant vapor plume formation.

3. Cumulative Impacts

Cumulative impacts to visual resources could occur where project facilities or activities, such as construction, occupy the same field of view as other built facilities or impacted landscapes. Ten approved projects in the IEEC vicinity were identified for cumulative impact analysis. The evidence shows that four of the projects would not be visible in the proposed project's field of view. None of the remaining six projects would cause a significant cumulative visual impact, either individually in combination with the proposed project or in total. (Ex. 67, p. 5.12-30.)

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[40] "Seasonal" is defined as the six consecutive months per year when the potential for plume formation is greatest. The months considered for a particular project are determined by the meteorological data used for that project. Usually the months are November through April, as is the case for this project. (Ex. 67, p. 5.12-29.)

The evidence shows that the power plant structures will create adverse incremental visual effects that would be cumulatively considerable in conjunction with the ongoing effects of the existing industrial facilities in the immediate project vicinity. These include the adjacent batch plant, heavy equipment storage yard, transmission line, Valley Substation, and the proposed Phase 2 expansion of the asphalt batch plant. According to Staff, the resulting cumulative visual impact would be adverse and significant. (Ex. 67 p. 5.12-31.)

However, the evidentiary record shows that with effective implementation of the Conditions of Certification, the project-specific visual impacts will be reduced to less than significant levels and, thus, the project effects will be less than cumulatively considerable. (Ex. 2, p. 7.5-21; Ex. 67, pp. 5.12-39 to 5.12-40.)

4. Mitigation

The Conditions of Certifications listed below require mitigation measures to be incorporated into the project design to minimize visual impacts associated with the operation of the facility, and also provided a revised landscaping plan based on Staff's recommendations. The revised landscape plan provides for placement of a two offset rows of border of trees along all sides of the power plant and compressor station sites and the use of berms to provide screening more rapidly, which we believe better addresses visual concerns. (Ex. 65; Ex. 67, p. 5.12-37.)

Condition of Certification **VIS-2** addresses color treatment of project structures and use of non-reflective and non-refractive materials. Vegetative screening of project structures is required in Condition of Certification **VIS-3**. Night lighting controls are included in Conditions of Certification **VIS-4** and **VIS-5**. Requirements for signage is included in Condition of Certification **VIS-6**. (Ex. 68, pp. 76-83.)

FINDINGS AND CONCLUSIONS

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

1. The IEEC Project will be located in an industrial zone in an unincorporated portion of the County of Riverside.
2. Construction of the power plant and linear facilities will be short-term and, with the implementation of the Conditions of Certification, adverse visual impacts that may occur during construction will be less than significant.
3. The project, with mitigation, will not result in significant adverse visual impacts at the key observation points (KOPs).
4. The KOPs chosen adequately represent potentially impacted viewsheds in the area.
5. The IEEC does not substantially degrade the existing visual character or quality of the site and its industrial surroundings since the design of the IEEC will be consistent with other industrial features in the area.
6. Impacts from light or glare as a result of lighting for operational safety and security will be mitigated to less than significant levels.
7. The visual plume created by the cooling tower and HRSG stack will not cause significant adverse visual impacts.
8. Implementation of the proposed mitigation measures and the Conditions of Certification, listed below, will reduce the project's visual impacts to less than significant levels in the area.
9. Implementation of the Conditions of Certification, below, will ensure that the IEEC complies with all applicable laws, ordinances, regulations, and standards identified in the pertinent portion of **Appendix A** in this Decision.

The Commission therefore concludes that implementation of the mitigation measures contained in the Conditions of Certification and otherwise described in the evidentiary record ensure that the IEEC will not result in significant adverse direct or cumulative impacts to visual resources.

CONDITIONS OF CERTIFICATION

Construction Screening and Surface Restoration

VIS-1 The project owner shall ensure that visual impacts of project construction are adequately mitigated. To accomplish this, the project owner shall assure that:

If visible from nearby residences and roadways including I-215, SR-74, Ethanac Road, Dawson Road, Almaden Lane, McLaughlin Road, Menifee Road, and Murrieta Boulevard, the project site as well as staging and material and equipment storage areas shall be visually screened with temporary screening fencing. Fencing will be of an appropriate design and color for each specific location. All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and all disturbed areas shall be remediated to an original or improved condition upon completion of construction including the replacement of any vegetation or paving removed during construction.

The project owner shall submit to the CPM for review and approval a specific screening and restoration plan whose proper implementation will satisfy these requirements.

Verification: At least 60 days prior to the start of site mobilization, the project owner shall submit the screening and restoration plan to the CPM for review and approval and to Riverside County for review and comment.

If the CPM notifies the project owner that any revisions of the screening and restoration plan are needed before the CPM will approve the plan, within 30 days of receiving that notification the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within seven days after installing screening at staging and material and equipment storage areas that the screening is ready for inspection.

The project owner shall notify the CPM within seven days after completing the surface restoration that the restoration is ready for inspection.

Surface Treatment of Project Structures and Buildings

VIS-2 Prior to commercial operation, the project owner shall treat the surfaces of all project structures and buildings conventionally receiving color treatment and visible to the public such that: their colors minimize visual intrusion and contrast by blending with the landscape; their surfaces do not create glare; and they are consistent with local laws, ordinances, regulations, and standards. The project owner shall submit for CPM review and approval a specific treatment plan whose proper implementation will satisfy these requirements. The treatment plan shall include:

a) Specification, and 11" x 17" color simulations at life size scale from KOPs 2, 4, and 5, of the treatment proposed for use on project structures, including structures treated during manufacture;

b) A list of each major project structure, building, tank, transmission line tower and/or pole, and fencing specifying the color(s) and finish proposed for each (colors must be identified by name and by vendor brand or a universal designation);

c) Two sets of brochures and/or color chips for each proposed color;

d) Samples, approximately 8 inches by 10 inches, of each proposed treatment and color on each material to which they would be applied that would be visible to the public;

e) A detailed schedule for completion of the treatment; and

f) A procedure to ensure proper treatment maintenance for the life of the project.

The project owner may, at its own risk, order equipment with factory surface treatment prior to approval of the treatment plan. If the CPM does not approve the treatment plan, the project owner shall have the equipment modified at its expense, as necessary, to obtain the required approval. Under no circumstances shall the project owner install the equipment at the project site prior to CPM approval of the treatment plan. The project owner shall not perform the final treatment on any buildings or structures until the project owner receives notification of approval of the treatment plan by the CPM.

Verification: The project owner shall submit its proposed treatment plan at least 60 days prior to ordering the first structures that are color treated during manufacture.

If a revision is required, the project owner shall provide the CPM with a revised plan within 30 days of receiving notification that revisions are needed.

Prior to the start of commercial operation, the project owner shall notify the CPM that all buildings and structures are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

Landscape Screening

VIS-3 The project owner shall provide landscaping that is effective in screening the proposed project from views from I-215, State Route (SR)-74, Ethanac Road, Dawson Road, Almaden Lane, Spring Winds Drive, North Winds Drive, McLaughlin Road, Menifee Road, and nearby residences. Trees and other vegetation consisting of informal groupings of fast-growing evergreen species must be strategically placed and of sufficient density and height to effectively screen the majority of structural forms as soon as is reasonably practicable. The landscaping shall conform to Applicant's Revised Landscaping Plan submitted by the project owner on December 20, 2002 (Ex. 65) except for the changes indicated by italics in the following list: (1) street trees shall be planted immediately west of the project site along Antelope Road, (2) two offset rows of taller *evergreen* screening trees shall be planted on the berm to be constructed on the west side of the project site bordering Antelope Road, one row on top of the berm and one row on the west slope of the berm; (3) evergreen shrubs shall also be planted on the western berm to provide screening beneath the tree branches; (4) landscape plantings along the western half of the southern boundary shall be initiated within one year of the start of construction; (5) If the Riverside County Economic Development Agency agrees to permit the project owner to incorporate planting along the southern side of SR 74 into its plans for beautification of the SR 74 corridor, the plantings in this area shall be installed at the start of construction or as soon after the start of construction as the EDA permits; and (6) informal groupings of fast-growing broadleaf evergreen trees shall be placed along all sides of the compressor station site.

The project owner shall submit a landscaping plan to the CPM for review and approval. The plan shall include:

a) 11"x17" color simulations of the proposed landscaping at five years as viewed from KOPs 2, and 5 ;

b) a plan view to scale depicting the project and the location of the landscape screening;

c) a detailed list of plants to be used, their size, the expected time to maturity, and the expected height at five years and at maturity; and a table showing when the screening objectives are calculated to be achieved for each of the major project structures, and the

height and elevation of the features of the existing setting and the project that are factors in those calculations;

d) A description of any irrigation needed to ensure the proper growth and health of the plantings.

The planting must be completed by start of commercial operation.

Verification: Prior to site mobilization and at least 45 days prior to installing the landscaping, the project owner shall submit the landscaping plan to the CPM for review and approval, and to Riverside County for review and comment.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 days of receiving that notification the project owner shall prepare and submit to the CPM a revised submittal.

The project owner shall notify the CPM, within seven days after completing installation of the landscaping, that the landscaping is ready for inspection.

Construction Lighting

VIS-4 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;

b) All fixed position lighting shall be shielded, hooded, and directed downward to minimize backscatter to the night sky and direct light trespass (direct lighting extending outside the boundaries of the construction area);

c) Wherever feasible and safe and not required for security, lighting shall be kept off when not in use and motion detectors shall be employed; and

d) A lighting complaint resolution form (following the general format of that in the general compliance section of the compliance plan) shall be maintained by plant construction management to record all lighting complaints received and to document the resolution of each complaint.

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 notifies the project owner that modifications to the lighting are needed to minimize impacts, within 15 days of receiving that notification the project

owner shall implement the necessary modifications and notify the CPM that the modifications have been completed.

The project owner shall report any lighting complaints and documentation of resolution in the Monthly Compliance Report, accompanied by any lighting complaint resolution forms for that month.

Permanent Lighting

VIS-5 The project owner shall design and install all permanent lighting such that light bulbs and reflectors are not visible from public viewing areas; lighting does not cause reflected glare; project illumination that is visible off-site is minimized; and illumination of the vicinity and the nighttime sky is minimized. To meet these requirements the project owner shall submit a lighting control plan that incorporates the following elements:

a) Lighting shall be designed so exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light source is shielded to prevent light trespass outside the project boundary.

b) All lighting shall be of minimum necessary brightness consistent with worker safety and security;

c) High illumination areas not occupied on a continuous basis (such as maintenance platforms) shall have switches or motion detectors to light the area only when occupied; and

d) A lighting complaint resolution form (following the general format of that in the general section of the compliance plan) shall be used by plant operations to record all lighting complaints received and document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

Verification: At least 60 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to arrange a meeting to discuss the documentation required in the lighting control plan.

At least 45 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval a lighting control plan that describes the measures to be used and demonstrates that the requirements of the condition will be satisfied. The project owner shall not order any exterior lighting until it receives CPM approval of the lighting control plan.

Within 30 days after start of commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If the CPM notifies the project owner that modifications to the lighting are needed to satisfy the lighting requirements specified in this Condition, within 60 days of

receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed.

The project owner shall report any complaints about permanent lighting and provide documentation of resolution in the Annual Compliance Report, accompanied by any lighting complaint resolution forms for that year.

Signage

VIS-6 The project owner shall comply with the signage requirements of Riverside County. In addition, the project owner shall install minimal signage, which shall be constructed of non-glare materials and unobtrusive colors, except where otherwise required for safety. The design of any signs required by safety regulations shall conform to the criteria established by those regulations. The project owner shall submit a signage plan for the project to the CPM for review and approval and to Riverside County for review and comment. The project owner shall not implement the plan until the project owner receives approval of the submittal from the CPM.

Verification: At least 60 days prior to installing signage, the project owner shall submit the signage plan to the CPM for review and approval and to Riverside County for review and comment.

If the CPM notifies the project owner that revisions of the plan are needed before the CPM will approve the submittal, within 30 days of receiving that notification the project owner shall prepare and submit to the CPM a revised submittal. The project owner shall notify the CPM within seven days after completing installation of signage that they are ready for inspection.

Project Design

VIS-7 The project owner shall implement project design measures that minimize visual impacts associated with project operation.

The project owner shall minimize project operational impacts by implementing the following:

a) The project owner shall create a minimum 50-foot setback of project structures from surrounding roads (this requirement does not apply to transmission structures);

b) The project owner shall place the one-story warehouse/ administration/ water treatment building, water tanks, and other smaller structures on the western edge of the project site to create a transition in scale between the corridor along Antelope Road and the plant's taller features; and

c) The switchyard shall make use of low profile equipment, as depicted in the AFC on Figures 3.4-2 and 5.10-9b (Ex. 1, pp. 3-19,

§5.10) to minimize its visibility beyond the tree rows that will be planted around it.

Verification: At least 60 days prior to the start of site mobilization, the project owner shall submit to the CPM for review and approval the specifications for (a) project setbacks, and (b) structural placement. At least 45 days prior to the start of construction on the switchyard, the project owner shall submit to the CPM, for review and approval, the specifications for switchyard equipment.

If the CPM notifies the project owner that any revisions of the specifications are needed prior to CPM approval, within 30 days of receiving that notification the project owner shall submit to the CPM revised specifications.

Cooling Tower Plume Frequency

VIS-8 The project owner shall ensure that the IEEC cooling tower is designed and operated so that the plume frequency will not increase substantially from the design as certified.

Prior to ordering the cooling tower, the project owner shall provide to the CPM for review and approval the final design specifications of the cooling tower related to plume formation. The project owner shall not order the cooling tower until notified by the CPM that the following design requirements have been satisfied:

Either:

a) The cooling tower design confirms that the exhaust air flow rate per heat rejection rate:

    1) will not be less than 29.8 kilograms per second per megawatt when operating without duct firing when ambient temperatures are between 32 degrees Fahrenheit and 100 degrees Fahrenheit; and

    2) will not be less than 18.42 kilograms per second per megawatt when operating with duct firing when ambient temperatures are between 32 degrees Fahrenheit and 100 degrees Fahrenheit; or

b) If the cooling tower design exhaust air flow rates per heat rejection values are reduced from the levels shown in 1 or 2 above, the cooling tower design confirms that the plume frequency will not exceed staff's criteria for triggering a visual impact analysis (i.e., greater than 10% of the seasonal daylight clear hours, where "clear" is defined as all hours with total sky cover equal to or less than 10 percent plus half of the hours with total sky cover 20-100 percent that have a sky opacity equal to or less than 50 percent.

Verification: If the project owner intends to comply under requirement (a) above, at least 30 days prior to ordering the cooling tower the project owner shall provide to the CPM for review and approval the final design specifications of the cooling tower related to plume formation.

If the project owner intends to comply under requirement (b) above, at least 60 days prior to ordering the cooling tower the project owner shall provide to the CPM for review and approval the final design specifications of the cooling tower related to plume formation, including revised exhaust flow, exhaust temperature, and heat rejection data to allow staff to remodel the cooling tower plume frequency.

The project owner shall provide a written certification in each Annual Compliance Report to demonstrate that the cooling towers have consistently been operated within the design parameters, except as necessary to prevent damage to the cooling tower. If determined by the CPM to be necessary to ensure operational compliance, based on legitimate complaints received or physical evidence of potential non-compliant operation, the project owner shall monitor the cooling tower operating parameters in a manner and for a period as specified by the CPM. For each period that the cooling tower operation monitoring is required, the project owner shall provide to the CPM the cooling tower operating data within 30 days of the end of the monitoring period. The project owner shall include with this operating data an analysis of compliance and shall provide proposed remedial actions if compliance cannot be demonstrated.

Appendix VR – 1: Lighting COMPLAINT RESOLUTION FORM

LIGHTING COMPLAINT RESOLUTION FORM

Inland Empire Energy Center County of Riverside, CA
Complainant's name and address: Phone number:
Date complaint received: Time complaint received:
Nature of lighting complaint:
Definition of problem after investigation by plant personnel: Date complainant first contacted:
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.)

D. NOISE AND VIBRATION

The construction and operation of any power plant project will create noise. The character and loudness of this noise, the times of day or night during which it is produced, and the proximity of the project to sensitive receptors combine to determine whether project noise will cause significant adverse impacts to the environment. In addition, operation of the facility may generate vibration and acoustic noise that could affect adjacent properties. In this technical area, the Commission evaluates whether noise produced by project-related activities during operation will be sufficiently mitigated to comply with applicable law.

SUMMARY OF THE EVIDENCE

The Comprehensive Riverside County General Plan regulates noise levels in the project vicinity. The General Plan defines the L_{dn} noise levels that are normally acceptable in residential areas as between 50 and 60 dBA. This same range is identified with respect to schools and other similar land uses. The Menifee North Specific Plan identifies the maximum outdoor noise level of 65 dBA CNEL for residential land uses. The County does not restrict the hours of construction. (Ex. 67, p. 5.6-4.)

CEQA Guidelines set forth characteristics of noise impacts that may indicate potentially significant effects from project-related noise, such as "a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project." (Cal. Code Regs., tit. 14, § 15000 et seq., Appendix G, Section XI.) In accordance with this standard, Staff uses the potential significance threshold of 5 dBA L_{90} when project-related noise emissions exceed existing ambient noise levels at the nearest sensitive receptor. (*Ibid.*)

1. Setting

This site is located in an area that is close to a small, medium density residential community. A population of 2,512 is located within a one-mile radius of the project site and the nearest residence is approximately 1,000 feet from the site. The Romoland Elementary School is located approximately 1,200 feet north of the project site. (Ex. 67, p. 5.6-5.)

Linear facilities for the project will consist of a new 0.9-mile natural gas pipeline, and a new water line connecting to a line just south of the site, both of which would be buried below ground. About 0.9 miles east, a compressor station will be added. None of these lines are near any noise sensitive receptors. Wastewater will be discharged through a new 4.7-mile pipeline connecting to a facility in Sun City, southwest of the plant site. This underground pipeline will traverse residential sections of Sun City. New power transmission lines 0.9 miles in length will connect the plant to the SCE Valley Substation east of the site. (*Ibid*.)

Applicant monitored ambient noise levels on June 13 and 14, 2001, at three of the closest noise sensitive receptors. The data collected provided estimates of the long-term noise environment in the vicinity of the project.[41] The dominant noise sources at these locations were primarily traffic on Highway 74 and local vehicular traffic. Existing noise levels taken at the nearest sensitive receptors are shown below in **Noise Table 3**, replicated from Staff's testimony. (Ex. 1, Table 5.9-3; Ex. 67, p. 5.6-5.)

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[41] The L_{90} values shown represent the average of the six quietest consecutive hours during each period. It may be noted that at one location, the average L_{90} during the day period was lower than the night period.

Noise: Table 3
Long-Term Noise Measurement Summary

(Ex. 67, p. 5.6-5.)

Monitoring Location	L_{dn}	Quietest (6 hr.) L_{90} in dBA	
		Day	Night
1 – NW Residence	62.2	50.1	42.2
2 – SW Residence	56.2	39.8	38.6
3 – Compressor Station	60.9	40.3	49.5

Source: Ex. 1, Calculated from Table 5.9-3

An additional noise survey was conducted on January 29 and 30, 2002 across the street from the northwest corner of the Romoland Elementary School and at the intersection of Antelope Road and 3rd Street near the northeast corner of the majority of Romoland homes. Data from this second survey is shown in **Noise: Table 4** below.

Noise: Table 4
Second Long-Term Noise Measurement Summary

(Ex. 67, p. 5.6-6.)

Monitoring Location	L_{dn}	Quietest (6 hr.) L_{90} in dBA	
		Day	Night
4 – Romoland School	64.1	49.0	44.9
5 – Antelope & 3rd St.	67.3	49.6	43.5

Source: Ex. 4, Calculated from Table 76-1

The noise levels at these two locations were similarly dominated by close proximity to vehicular traffic along Antelope Road. Based upon the two noise surveys, the lowest average L_{90} for the majority of the Romoland community located away from the heavily traveled streets is 40 dBA. (Ex. 4, Table 76-1; Ex. 67, p. 5.6-6.)

2. Potential Impacts

During the day, the primary noise source in the area is the asphalt plant located immediately north of the site. Traffic noise from Hwy 74 and Ethanac Road north of the site is present both day and night at varying levels. Land use around the gas compressor is agricultural. (Ex. 2, p. 7.2-3.)

a. Construction

Construction of the power plant will cause temporary noise impacts. As noted above, the County noise standard does not specifically address construction noise. (Ex. 67, p. 5.6-6.)

Applicant provided data on the anticipated construction noise levels and equipment usage for each phase of construction, predicting the sound levels that could be expected at the nearest residence. Based on a sound level at 50 feet of 85 to 91 dBA for much of the construction activity, the sound level at the nearest residence would be between 48 and 59 dBA. The evidence of record shows that these levels will be higher than the measured L_{90} ambient level of 40 to 50 dBA and, therefore, will be audible but not objectionable and should not result in a significant noise impact. (*Ibid*.)

Because construction activity and related traffic are regulated by the proposed Conditions of Certification, and are of limited duration, potential construction noise impacts to receptors in the IEEC project area are considered to be less than significant. In order to ensure that construction and operation of the project does not cause unacceptable impacts on nearby receptors, Conditions of Certification **NOISE-1** and **NOISE-2** require the project owner to notify nearby residents of the work, and to provide a means of effectively registering complaints. (*Ibid*.)

Based on the information in the Preliminary Geotechnical Report, piles will not be necessary for the construction of the IEEC. Therefore, there will be no noise or vibration resulting from pile driving activities. (Ex. 1, Appendix G; Ex. 2, p. 7.2-5.)

Typically, the loudest noise encountered during construction, inherent in building any project incorporating a steam turbine, is created by the steam blows, which are necessary to flush piping and tubing of accumulated debris prior to start-up. A series of short steam blows, lasting a few minutes, could be performed several times daily over a period of two to three weeks. These high-pressure steam blows could produce noise as loud as 130 dBA at a distance of 100 feet. (Ex. 67, p. 5.6-7.)

In recent years, a new, quieter steam blow process, variously referred to as QuietBlow™ or Silentsteam™, has become popular. This method utilizes lower pressure steam over a continuous period of about 36 hours. Resulting noise levels reach only about 80 dBA at 100 feet. Thus, steam blow noise at nearby receptors is predicted to be similar to the ambient background noise level, and thus barely noticeable. (*Ibid*.)

With an appropriate silencer, the resulting noise level at the nearest receptor would be about 48 dBA, in the same range as the average L_{90} during daytime hours. Noise from the steam blow activity will likely be audible but, for the short duration of the events, the levels should not be objectionable. (Ex. 67, p. 5.6-8.)

Condition of Certification **NOISE-4** requires that any high pressure steam blows be muffled with an appropriate silencer, and that they be performed only during daytime hours to minimize annoyance to residents. The evidence shows that if high pressure steam blows are utilized, the noise levels at the Romoland Elementary School would be less than 48 dBA and thus would be audible only during very quiet times of the day. If a low pressure steam blow process is utilized, the noise level at the school will be less than 40 dBA and should not be

noticeable. (Ex. 67, p. 5.6-8; Ex. 68, p. 62.) Condition of Certification **NOISE-5** further provides for a notification process to make neighbors aware of scheduled steam blows. Noise from construction of linear facilities will also be limited by adhering to the allowable hours of construction as cited in proposed Condition of Certification **NOISE-8**. (Ex. 68, p. 64.)

Project workers are susceptible to injury from excessive noise during construction-related activities. Condition **NOISE-3** requires the project owner to implement a noise control program for construction workers in accordance with Cal/OSHA standards.[42] (Ex. 67, p. 5.6-8.)

b. Operations

During its operating life, the IEEC power plant represents essentially a steady, continuous noise source day and night. Occasional brief increases in noise levels would occur as steam relief valves open to vent pressure, or during startup or shutdown as the plant transitions to and from steady-state operation. The primary noise sources at the proposed plant will consist of the combustion turbine generators (CTG), the steam turbine generator (STG), the heat recovery steam generators (HRSG), boiler feedwater pumps and the cooling towers. Secondary noise sources include auxiliary pumps, ventilation fans, motors, valves and gas compressors. (Ex. 67, p. 5.6-8.)

The noise level from the proposed power plant was modeled to evaluate whether the new plant would contribute an incremental increase in noise levels at the nearest residential receptors. All major pieces of equipment were assumed to operate continuously for the purpose of the modeling analysis. The projected

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[42] Regulations adopted by the federal Occupational Safety and Health Administration (OSHA) and the state Cal/OSHA protect workers from noise-related health and safety hazards. (29 C.F.R., § 1910 et seq.; Cal. Code of Regs., tit. 8, § 5095 et seq.)

IEEC noise level at the closest residential receptors, north of the site, is a constant noise level of 45 dBA. Condition of Certification **NOISE-6** requires the project owner to meet this plant operation noise level of 45 dBA as a limit to be determined by a measurement of the L_{50} level in the community. Based on the results of the noise surveys performed on June 13th & 14th, 2001, and January 29th & 30th, 2002, the future combined noise level at these locations will result in a combined noise level of 45 dBA, an increase of 5 dBA above the lowest average nighttime L_{90}. The evidence of record indicates that the project noise should only be noticeable during the quietest periods of the day and night at the closest residences. For residences at greater distances in the community, the noise level will be lower and should be largely unnoticeable. (Ex. 67, p. 5.6-9.)

Although is not expected that tonal noises will be generated during the operation of the project, to ensure that no strong tonal noises or hissing sounds are present and that intermittent noises are mitigated, Condition of Certification **NOISE-6** requires the project be designed to blend noise levels and muffle equipment to prevent legitimate complaints from affected receptors. (*Ibid*.)

Noise from the transmission lines will include a corona discharge hum, which is expected to be audible within 100 feet of the power lines. Since the nearest residences are located about 125 and 140 feet from the transmission lines, they will generally be unable to hear the corona noise. (Ex. 67, pp. 5.6-9 to 5.6-10.)

The evidence of record shows that with these small increases, project noise will barely be noticeable during the quietest periods of the night and thus represents an insignificant impact.

In order to protect plant operating and maintenance personnel from noise hazards, Condition **NOISE-7** requires the project owner to conduct an occupational noise survey, identify necessary protective measures for onsite

employees during project operation, and implement a hearing conservation program. (Ex. 68, p. 64.)

Regarding potential cumulative noise impacts, neither Applicant nor Staff identified any planned projects that could contribute to cumulative noise impacts in the project study area. (Ex. 1, § 5.9.5). Therefore, no cumulative noise impacts are expected to occur as a result of the project.

FINDINGS AND CONCLUSIONS

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

1. Construction and operation of the IEEC will not increase noise levels significantly above existing ambient levels in the surrounding community.

2. Construction noise levels are temporary and transitory in nature and will be mitigated to the extent feasible by sound reduction devices, limiting noisy construction to daytime hours, and providing notice to nearby residences and businesses, as appropriate.

3. The nearest sensitive receptor to the IEEC project is located 1,000 feet from the project site.

4. An increase of 5 dBA or less above existing background levels is insufficient to result in a significant adverse impact.

5. Noise reduction measures will be incorporated into project design to ensure that operation noise levels will not exceed an L_{50} of 45 dBA measured at any residence. This avoids potential significant adverse impacts by limiting any noise increase to 5 dBA or less above background levels.

6. The project owner will implement measures to protect workers from injury due to excessive noise levels by complying with pertinent Cal/OSHA regulations.

7. There is no evidence of potential cumulative impacts due to project-related noise.

8. The project owner will implement the mitigation measures identified in the evidentiary record and the Conditions of Certification to ensure that project-related noise emissions do not cause significant adverse impacts to sensitive noise receptors.

The Commission therefore concludes that implementation of the following Conditions of Certification ensure that IEEC will comply with the applicable laws, ordinances, regulations, and standards on noise and vibration as set forth in the pertinent portion of **Appendix A** of this Decision.

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-half mile of the site and 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. 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 CPM a statement, signed by the 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-2 Throughout the construction and operation of the project, the project owner shall document, investigate, evaluate, and attempt to resolve all project related noise complaints.

The project owner or authorized agent shall:

- Use the Noise Complaint Resolution Form (see Attachment 1), or functionally equivalent procedure acceptable to the CPM, to document and respond to each noise complaint;
- Attempt to contact the person(s) making the noise complaint within 24 hours;

- Conduct an investigation to determine the source of noise related to the complaint;
- If the noise is project related, take all feasible measures to reduce the noise at its source; and
- 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 is resolved to the complainant's satisfaction.

Verification: Within 5 days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form with the Riverside County Planning Department and the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 3-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 a noise control program plan to the CPM for review and approval. 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. The project owner shall make the program available to Cal-OSHA upon request.

NOISE-4 If a traditional, high-pressure steam blow process 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 86 dBA measured at a distance of 100 feet. The noise level at the nearest residence produced by this operation must be less than a constant value of 48 dBA. The project owner shall conduct high pressure steam blows only during the hours of 8 a.m. to 5 p.m., unless the CPM agrees to longer hours based on a demonstration by the project owner that offsite noise impacts will not cause annoyance.

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 period of execution, to the CPM, who shall review the proposal with the objective of ensuring that the resulting noise levels from this process do not exceed 42 dBA hourly Leq at the most-affected residence. If the low-pressure process is approved by the CPM, the project owner shall implement it in accordance with the requirements of the CPM.

Verification: At least 15 days prior to the first high-pressure 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-5 Prior to the first steam or air blow(s), the project owner shall notify all residents within one-half mile of the site, and the principal of the Romoland School, of the planned activity, and shall make the notification available to other area residents in an appropriate manner.

Verification: The notification may be in the form of letters to the area residences, telephone calls, fliers or other effective means. The notification shall include a description of the purpose and nature of the steam or air blow(s), the proposed schedule, the expected sound levels, and the explanation that it is a one-time operation and not a part of normal plant operations.

NOISE-6 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that the noise level produced by operation of the project (including the gas compressor station) will not exceed an L_{50} of 45 dBA measured at any residence.

No new pure tone components may be introduced. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints. Steam relief valves shall be adequately muffled to preclude 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 (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the nearest residence. However, notwithstanding the use of this alternative method for determining the noise level, the character of the plant noise shall be evaluated at the nearest residence to determine the presence of pure tones or other dominant sources of plant noise.

When the project first achieves a sustained output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at Locations 1, 2, and 3 (Ex. 67, p. 5.6-5). The noise survey shall also include short-term measurement of one-third octave band sound pressure levels at each of the above locations to ensure that no new pure-tone noise components have been introduced.

If the results from the two noise surveys (AFC vs. post-construction) indicate that the noise level due to the plant operations exceeds 45 dBA for any given hour during the 25-hour period, mitigation measures shall be implemented to reduce noise to a level of compliance with these limits.

If the results from the two noise surveys (AFC vs. post-construction) indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: The post-construction survey shall take place within 30 days of the project first achieving a sustained output of 80 percent or greater of rated capacity. Within 15 days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the Riverside County Planning Department and to the CPM. Included in the post-construction survey report will be a description of any additional mitigation measures necessary to achieve compliance with the above listed noise limits, and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the operational noise survey.

Within 15 days of completion of installation of these measures, the project owner shall submit to the CPM a summary report of a new noise survey, performed as described above and showing compliance with this condition.

NOISE-7 Following the project first achieving a sustained output of 80 percent 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 (Article 105) 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 that will be employed to comply with the applicable California 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.

NOISE-8 Heavy equipment operation and noisy construction work shall be restricted to the times of day delineated below:

Weekdays	7 a.m. to 7 p.m.
Weekends and Holidays	8 a.m. to 5 p.m.

Haul trucks and other engine-powered equipment shall be equipped with adequate mufflers. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

Horizontal drill rigs may be operated on a continuous basis, provided that the rigs are fitted with adequate mufflers and engine enclosures.

Verification: Prior to ground disturbance, the project owner shall transmit to the CPM in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project

NOISE COMPLAINT RESOLUTION FORM
INLAND EMPIRE ENERGY CENTER, Docket No. 01-AFC-17

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 3 feet from noise source _____ dBA Date: _____ Initial noise levels at complainant's property: _____ dBA Date: _____ Final noise levels at 3 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: _____ Date: _____

Noise Table Appendix 1 Definition of Some Technical Terms Related to Noise	
Terms	**Definitions**
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a Sound Level Meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this testimony are A-weighted.
L_{10}, L_{50}, & L_{90}	The A-weighted noise levels that are exceeded 10%, 50%, and 90% of the time, respectively, during the measurement period. L_{90} is generally taken as the background noise level.
Equivalent Noise Level, L_{eq}	The energy average A-weighted noise level during the Noise Level measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 4.8 decibels to levels in the evening from 7 p.m. to 10 p.m., and after addition of 10 decibels to sound levels in the night between 10 p.m. and 7 a.m.
Day-Night Level, L_{dn} or DNL	The Average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10 p.m. and 7 a.m.
Ambient Noise Level	The composite of noise from all sources, near and far. The normal or existing level of environmental noise at a given location.
Intrusive Noise	That noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.
Pure Tone	A pure tone is defined by the Model Community Noise Control Ordinance as existing if the one-third octave band sound pressure level in the band with the tone exceeds the arithmetic average of the two contiguous bands by 5 decibels (dB) for center frequencies of 500 Hz and above, or by 8 dB for center frequencies between 160 Hz and 400 Hz, or by 15 dB for center frequencies less than or equal to 125 Hz.

Source: California Department of Health Services 1976, 1977.

Noise Table Appendix 2 Typical Environmental and Industry Sound Levels			
Noise Source (at distance)	A-Weighted Sound Level in Decibels (dBA)	Noise Environment	Subjective Impression
Civil Defense Siren (100')	140-130		Pain Threshold
Jet Takeoff (200')	120		Very Loud
Very Loud Music	110	Rock Music Concert	
Pile Driver (50')	100		
Ambulance Siren (100')	90	Boiler Room	
Freight Cars (50')	85		
Pneumatic Drill (50')	80	Printing Press Kitchen with Garbage Disposal Running	Loud
Freeway (100')	70		Moderately Loud
Vacuum Cleaner (100')	60	Data Processing Center Department Store/Office	
Light Traffic (100')	50	Private Business Office	
Large Transformer (200')	40		Quiet
Soft Whisper (5')	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing

Source: Peterson and Gross 1974

Subjective Response to Noise

The adverse effects of noise on people can be classified into three general categories:

Subjective effects of annoyance, nuisance, dissatisfaction.

Interference with activities such as speech, sleep, and learning.

Physiological effects such as anxiety or hearing loss.

The sound levels associated with environmental noise, in almost every case, produce effects only in the first two categories. Workers in industrial plants can experience noise effects in the last category. There is no completely satisfactory

way to measure the subjective effects of noise, or of the corresponding reactions of annoyance and dissatisfaction, primarily because of the wide variation in individual tolerance of noise.

One way to determine a person's subjective reaction to a new noise is to compare the level of the existing (background) noise, to which one has become accustomed, with the level of the new noise. In general, the more the level or the tonal variations of a new noise exceed the previously existing ambient noise level or tonal quality, the less acceptable the new noise will be, as judged by the exposed individual.

With regard to increases in A-weighted noise levels, knowledge of the following relationships (Kryter 1970) can be helpful in understanding the significance of human exposure to noise.

1. Except under special conditions, a change in sound level of one dB cannot be perceived.
2. Outside of the laboratory, a three dB change is considered a barely noticeable difference.
3. A change in level of at least five dB is required before any noticeable change in community response would be expected.
4. A ten dB change is subjectively heard as an approximate doubling in loudness and almost always causes an adverse community response.

Combination of Sound Levels

People perceive both the level and frequency of sound in a non-linear way. A doubling of sound energy (for instance, from two identical automobiles passing simultaneously) creates a three dB increase (i.e., the resultant sound level is the

sound level from a single passing automobile plus three dB). The rules for decibel addition used in community noise prediction are:

Noise Table Appendix 3 **Addition of Decibel Values**	
When two decibel Values differ by:	Add the following Amount to the Larger value
0 to 1 dB	3 dB
2 to 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0
Figures in this table are accurate to ± 1 dB. Source: Thumann, Table 2.3	

Sound and Distance

1. Doubling the distance from a noise source reduces the sound pressure level by six dB.

2. Increasing the distance from a noise source ten times reduces the sound pressure level by 20 dB.

Worker Protection

OSHA noise regulations are designed to protect workers against the effects of noise exposure, and list permissible noise level exposure as a function of the amount of time to which the worker is exposed:

Noise Table Appendix 4
OSHA Worker Noise Exposure Standards

Duration of Noise (Hrs/day)	A-Weighted Noise Level (dBA)
8.0	90
6.0	92
4.0	95
3.0	97
2.0	100
1.5	102
1.0	105
0.5	110
0.25	115

Source: 29 CFR § 1910.95

E. SOCIOECONOMICS

The "socioeconomics" topic evaluates the effects of project-related population changes on local schools, medical and fire protection services, public utilities, and other public services, as well as the fiscal and physical capacities of local government to meet these needs. The public benefits of the project, including economic, environmental, and electricity reliability benefits are also reviewed. In addition, an environmental justice screening analysis is conducted to determine whether project-related activities would result in disproportionate impacts on minority and/or low-income populations.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The construction phase is typically the focus of the analysis because of the potential influx of workers into the area. Socioeconomic impacts are considered significant if a large influx of non-resident workers and dependents move to the project area, increasing demand for community resources that are not readily available.

Staff identified the potentially affected area to include Los Angeles, Orange, Riverside, San Bernardino and San Diego Counties. These communities are within commute distance of the power plant site. (Ex. 67, p. 5.8-2.)

1. Potential Impacts

During the 24-month construction period, an average construction workforce of 250 will be created with a maximum of 490 workers for 4-5 months (Ex. 1, p. 5.8-6.) There is a large skilled labor pool of construction workers/laborers in the five-county area and, specifically, in the Riverside area. (Ex. 1, p. 5.8-6; Ex. 67, p. 5.8-15.) Most workers are expected to commute within a two-hour distance of the work site. However, for those workers who would rather stay in the area

during the work week, an adequate amount of motel space is available. (Ex. 1, p. 5-8-6.) Thus, the record indicates that a large influx of workers would not relocate to the local area and, therefore, the IEEC will not result in a significant adverse socioeconomic impact on housing. (*Ibid.*)

Applicant estimated that the plant will be operated by 23 permanent employees who will be drawn from the local labor force, thereby not creating any impact on housing supplies in the area. (Ex.1, § 5.8.2.2.) The record thus establishes that the project will not directly, or indirectly, induce population growth and there would be no significant impact to schools, police, medical services or other public service providers. (Ex. 67, pp. 5.8-15 to 5.8-16.)

The capital cost for the IEEC is expected to be $325-400 million. (Ex. 67, p. 5.8-16.) Approximately $25 million will be expended on construction-related payroll. (Ex. 1, p. 5.8-6.) Operational payroll, including salaries, overtime, and benefits will equal $1.3 million annually. (Ex. 1, p. 5.8-8.) During construction, between $5-10 million will be spent on local purchases. (*Ibid.*) Riverside County will initially receive an estimated $4 million in additional property taxes annually. (Ex. 1, p. 5.8-10.)

2. Section 25523(h) Public Benefit Finding

Public Resources Code section 25523(h) requires a discussion of the project's public benefits. According to the Applicant, the project will provide for the "production of economical, reliable, and environmentally sound electrical energy and capacity to meet California's growing energy demands." (Ex. 1, §1.3.) In addition, the local economy is enhanced by the multiplier effect of IEEC workers spending payroll income in the area and local purchases of equipment and materials. The IEEC will provide reliable electricity to the area due to state-of-the-art project design and efficiency levels. As a result of the project's state-of-the

art technology, generation from older, less efficient, and more polluting power plants will be replaced by the new IEEC.

3. Environmental Justice Screening Analysis

Applicant conducted a screening analysis to determine whether environmental justice concerns are present in this case.[43] (Ex. 67, pp. 5.8-18 to 5.8-20.) The screening analysis assessed: (1) whether the potentially affected community includes minority and/or low-income populations; and (2) whether the project's potential environmental impacts are likely to fall disproportionately on minority and/or low-income members of the community. According to EPA guidelines, a minority population exists if the minority/low-income population of the affected area constitutes 50 percent or more of the general population. (*Ibid*.)

Relevant 2000 Census data indicates that within the six-mile radius of the site, 54.8 percent of the total population is white (non-Hispanic), while the remaining 45.2 percent is minority. Within this radius there are multiple census blocks with a greater than 50 percent minority population, the majority of which are associated with the communities of Perris and Romoland. Within a one-mile radius of the IEEC site, 64 percent of the population is minority, which includes the community of Romoland. Within a two-mile radius of the project site, the minority population percentage decreases to 33 percent. (Ex. 67, p. 5.8-19.) According to the 2000 census data, the total percentage of individuals within a six-mile radius of the proposed IEEC project site living under the poverty level is

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[43] Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" requires the U.S. Environmental Protection Agency (EPA) and all other federal agencies and state agencies receiving federal aid to identify and address disproportionately high and adverse human health or environmental effects of their programs on minority and low-income populations. Although the Energy Commission is not obligated as a matter of law to conduct an environmental justice analysis, we include this analysis in power plant siting decisions to ensure that any potential adverse impacts on identified populations will be addressed.

14.7 percent. Additionally, within a six-mile radius of the project site, there were no “pockets” where more than 50 percent of the people living in the area are under the poverty level. (Ex. 67, p. 5.8-20.)

During the evidentiary hearing, Mr. John Puentes, a resident of Romoland, expressed his concerns about how the site was chosen, potential air emission impacts and visual impacts to the Romoland community. Mr. Puentes also asked about employment opportunities for the Romoland residents and expressed his opposition to the plant. (RT 7/30/03, pp. 40-45, 298- 309.) Following the hearing on September 5, 2003, John and Melinda Puentes sent a letter and petition to the Commission in opposition to the plant, signed by 121 Romoland residents. The letter stated that the community of Romoland is largely minority and non-English speaking and did not receive notice of the evidentiary hearings held in July. The petition indicated that the signatories were in opposition to the construction and operation of the IEEC.

The Committee asked the Public Advisor to meet with the Puentes and Romoland residents who had supported their petition and to assist them in participating in the public process. Following the meeting on September 22, 2003, which only the Puentes attended, the Puentes sent a follow-up letter to the Committee on September 30, 2003, expressing their continuing concerns about public health, air quality, visual and socioeconomic impacts and environmental justice.

We believe that the issues the Puentes have raised subsequent to the evidentiary hearings were addressed in the AFC, the Final Staff Assessment, and during the evidentiary hearings. The Committee urges Applicant to further engage local residents and to listen to their concerns. Applicant has shown in other cases its ability to come up with solutions that satisfy and resolve local residents’ concerns. We are confident that Applicant can accomplish similar results in this case.

Nevertheless, if, after reading this Presiding Member's Proposed Decision (PMPD), the Puentes and other local residents have continuing concerns that have not yet been addressed, they are encouraged to attend the PMPD Conference to be held in the City of Perris on **December 1, 2003** and expand upon their written comments. We encourage the Puentes and other parties to contact Margret J. Kim, Commission Public Advisor, for assistance and guidance in participating in this public process.

Compliance with all Conditions of Certification adopted by this Decision will ensure that no unmitigated significant adverse impacts will result from project-related activities. As described in the **Air Quality** and **Public Health** sections, changes in air quality values and public health indices that could occur as a result of project operations are below regulatory thresholds for significant impact. Since the IEEC will not result in significant adverse effects to any population, including minority populations, no further environmental justice analysis is required. (*Ibid*.)

5. Cumulative Impacts

Although the Riverside County area has been experiencing growth that has placed demands on the construction industry, the average construction workforce of 250 persons for the IEEC is an insignificant portion of the area's construction workforce of approximately 10,000. (Ex. 67, p. 5.8-18.)

The annual income and property tax revenues generated by the IEEC are expected to provide additional public resources and potential improvements that would outweigh any short-term impacts associated with project construction. The evidence of record demonstrates that no adverse cumulative socioeconomic impacts are expected to occur from the construction or operation of the proposed IEEC facility at either a local or regional level. (Ex. 67, p. 5.8-18.)

FINDINGS AND CONCLUSIONS

Based on the evidence of record, the Commission finds as follows:

1. A large skilled labor pool in the greater Riverside County area is available for construction and operation of the project.

2. The project will not cause an influx of a significant number of construction or operation workers to relocate in the local area.

3. The project will not result in significant adverse effects to local employment, housing, schools, public utilities, or emergency.

4. The IEEC project will create an average of 250 direct jobs and a maximum of 490 direct jobs.

5. The estimated construction payroll will be approximately $25 million and the annual operations payroll will be about $1.3 million.

6. The project will generate about $4 million in property taxes for Riverside County.

7. The environmental justice screening analysis indicates that less than 50 percent of the population within a six-mile radius of the project is minority or low-income.

8. The environmental justice screening analysis also indicates that the population of Romoland in which the project is located is 60.5% is minority and the minority population is 64% minority within one mile radius of the site. In contrast, Hemet and Sun City, neighboring communities are 70.3% and 82.6% white, respectively.

9. There is no evidence of unmitigated disproportionate impacts to minorities or low-income populations.

10. The project will provide public benefits, including economic and environmental benefits, and electricity reliability.

11. Construction and operation of the project will not result in any direct, indirect, or cumulative adverse socioeconomic impacts.

We therefore conclude that implementation of all Conditions of Certification in this Decision and the mitigation measures identified in the evidentiary record ensures that the project will comply with all applicable laws, ordinances,

regulations, and standards relating to socioeconomic factors as identified in the pertinent portion of **Appendix A** of this Decision.

CONDITION OF CERTIFICATION

SOCIO-1 The project owner shall pay the one-time statutory school development fee as required at the time of filing for the in-lieu building permit with the Riverside County Building Department.

Verification: The project owner shall provide proof of payment of the statutory development fee in the Monthly Compliance Report following the payment.

Appendix A: *Laws, Ordinances, Regulations , and Standards*

Appendix B: *Exhibit List*

Appendix C: *Proof of Service List*

APPENDICES

AIR QUALITY

FEDERAL

Under the federal Clean Air Act (40 CFR 52.21), there are two major components of air pollution control requirements for stationary sources, nonattainment New Source Review (NSR) and Prevention of Significant Deterioration (PSD). Nonattainment NSR is a permitting process for evaluation of those pollutants that violate federal ambient air quality standards. Conversely, PSD is a permitting process for evaluation of those pollutants that do not violate federal ambient air quality standards. The PSD requirements apply only to those projects (known as major sources) that emit more than 250 tons per year for any pollutant, or any new facility or stationary source that is listed in the categories of 40 CFR Part 52.21(b)(1)(i)(a), and emits 100 tons per year or more of any criteria pollutant. A major modification at an existing major source which results in an emission increase of 100 tons per year for carbon monoxide (CO), 40 tons per year for oxides of nitrogen (NOx), sulfur dioxide (SO_2) or volatile organic compounds (VOC, also regulated as reactive organic gases, ROG), or 15 tons per year for particulate matter less than ten microns in diameter (PM_{10}) will also be subject to PSD review. The entire program, including both nonattainment NSR and PSD reviews, is referred to as the federal NSR program. Where air quality is regulated by local jurisdictions, the U.S. Environmental Protection Agency (U.S. EPA) determines the conformance of the local regulations with the federal regulations.

Title V of the federal Clean Air Act requires states to implement and administer an operating permit program to ensure that large sources operate in compliance with the requirements included in 40 CFR Part 70. A Title V permit contains all of the requirements specified in different air quality regulations that affect an individual project. As a new major source, the IEEC will require a Title V permit.

The IEEC is also subject to the federal New Source Performance Standards (NSPS) for the combustion turbines (40 CFR 60 Subpart GG) and heat recovery steam generators (Subpart Da). These regulations have pollutant emission requirements that are less stringent than those that will be required by NSR requirements for best available control technology (BACT).

The U.S. EPA continually reviews and approves the SCAQMD regulations and has delegated to the SCAQMD the implementation of the nonattainment NSR, Title V, and NSPS programs. The District implements these programs through its own rules and regulations, which are as stringent as the federal regulations. The Title V program is administered by the District under Regulation XXX. In addition, the U.S. EPA has delegated to the District the authority to implement the federal Clean Air Act Title IV “acid rain” program. The Title IV regulation requirements will include obtaining a Title IV permit prior to operation, the installation of continuous emission monitors to monitor acid deposition precursor

pollutants, and obtaining Title IV allowances for emissions of SOx. Regulation XXXI implements the federal Title IV program. Therefore, compliance with the District's rules and regulations will result in compliance with federal requirements.

The U.S. EPA presently implements the federal PSD program in the SCAQMD. The U.S. EPA withdrew its delegation of the PSD program on March 3, 2003 because of revised federal PSD requirements promulgated December 31, 2002 (67 FR 80186). Until the SCAQMD can demonstrate that its rules conform with the new federal requirements, the U.S. EPA will administer PSD.

STATE

The California State 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 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."

LOCAL – SCAQMD

As part of the Energy Commission's licensing process, in lieu of issuing a construction permit to the applicant for the IEEC, the SCAQMD prepared a Final Determination of Compliance (FDOC, SCAQMD 2003b). A Permit to Construct (PTC) is contingent upon an Energy Commission decision that successfully incorporates the District's recommended conditions. The FDOC evaluates whether and under what conditions the proposed project will comply with the District's applicable rules and regulations, as described below.

Regulation II — Permits

Rule 202 — Temporary Permit To Operate

This rule states that any new equipment that has been issued a Permit to Construct (PTC) shall be allowed to use that PTC as a temporary Permit to Operate (PTO) until a PTO is issued or denied by the District. Notification of the SCAQMD Air Pollution Control Officer (APCO) is required before operating under this rule.

Rule 203 — Permit To Operate

This rule prohibits the use of any equipment that may emit air contaminants or control the emission of air contaminants, without first obtaining a PTO except as provided in Rule 202.

Rule 217 — Provisions For Sampling And Testing

The Executive Officer may require the applicant to provide and maintain facilities necessary for sampling and testing. The SCAQMD Executive Officer will inform the applicant of the need for testing ports, platforms and utilities.

Rule 218 — Continuous Emission Monitoring

This rule describes the installation, quality assurance/ quality control (QA/QC) and reporting requirements for all sampling interfaces, analyzers and data acquisition systems used to continuously determine the concentration or mass emission of an emission source. However, this rule does not apply to the CEMS required for NOx monitoring under RECLAIM (Regulation XX).

Regulation IV — Prohibitions

This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events.

Rule 401 — Visible Emissions

Generally this rule restricts visible emissions from a single source for more than three minutes in any one hour from being as dark or darker than that designated on the No. 1 Ringelmann Chart.

Rule 402 — Nuisance

This rule restricts the discharge of any contaminant in quantities that cause or have a natural ability to cause injury, damage, nuisance or annoyance to businesses, property or the public.

Rule 403 — Fugitive Dust

This rule requires that the applicant prevent, reduce or mitigate fugitive dust emissions from the project site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM_{10} concentrations (between up- and down-wind measurements) to less than 50 $\mu g/m^3$ and restricts the tracking out of bulk materials onto public roads. Additionally, the applicant must utilize one or more of the best available control measures (identified within Rule 403, Tables 1 and 2). The project would be exempt from the 50 $\mu g/m^3$ up- and down-wind ambient limit if dust control actions (from Rule 403, Table 2) are implemented on a routine basis and records reflecting dust control practices are maintained. Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities. Finally, a contingency plan may be required if so determined by the U.S. EPA.

Rule 407 — Liquid And Gaseous Air Contaminants

This rule limits CO emissions to 2,000 ppm and SO_2 emissions to 500 ppm, averaged over 15 minutes. Stationary internal combustion engines are exempt from limits in the rule, and equipment that complies with Rule 431.1 is exempt from the SO_2 limit. The applicant will be required to comply with Rule 431.1 and thus the sulfur limit of Rule 407 will not apply.

Rule 409 — Combustion Contaminants

This rule restricts the discharge of contaminants from the combustion of fuel to 0.23 grams per cubic meter of gas, calculated to 12 % CO2, averaged over 15 minutes. This rule does not apply to IC engines or jet engine test stands.

Rule 431.1 — Sulfur Content Of Gaseous Fuels

This rule restricts the sale or use of gaseous fuels that exceed a sulfur content limit. The sulfur content limit for natural gas is 16 ppmv calculated as H_2S. This rule also establishes monitoring and reporting requirements, as well as test methods to be used.

Rule 431.2 — Sulfur Content Of Liquid Fuels

This rule establishes a sulfur content limit for diesel fuel of 0.05 percent by weight, including record keeping requirements and test methods.

Rule 474 — Fuel Burning Equipment – Oxides Of Nitrogen

This rule establishes limits for emissions of NOx from stationary combustion sources. NOx RECLAIM facilities regulated under Regulation XX are exempt from the provisions of Rule 474 (Rule 2001).

Rule 475 — Electric Power Generating Equipment

This rule limits combustion contaminants (PM_{10}) from electric power generating equipment, with a maximum rating of more than 10 net megawatts, to 11 pounds per hour or 23 milligrams per cubic meter @ 3 % O_2 (0.01 grain/SCF) with the pollutant averaging time subject to SCAQMD Executive Officer decision.

Rule 476 — Steam Generating Equipment

This rule establishes limits for emissions of NOx and other combustion contaminants (PM_{10}) from steam generating equipment. NOx RECLAIM facilities regulated under Regulation XX are exempt from the NOx provisions of Rule 476 (Rule 2001). The PM_{10} provisions of Rule 475 are equivalent to the PM_{10} provisions of this rule.

Addendum To Regulation Iv – Rule 53 – Specific Air Contaminants

Prohibits discharge of sulfur compounds from any stationary source in levels exceeding 500 ppm. Compliance with fuel limitations in Rules 431.1 and 431.2 would ensure compliance with this rule.

Regulation IX — Standards Of Performance For New Stationary Sources

Regulation IX incorporates provisions of Part 60, Chapter I, Title 40 of the Code of Federal Regulations (CFR) and is applicable to all new, modified or reconstructed sources of air pollution. Sections of this regulation apply to electric utility steam generators (Subpart Da) and stationary gas turbines (Subpart GG). These subparts establish limits of particulate matter, SO_2, and NO_2 emissions from the facility as well as monitoring and test method requirements.

Regulation XI — Source Specific Standards

Rule 1110.1 — Emissions From Stationary Internal Combustion Engines

This rule generally applies to engines larger than 50 brake horsepower (bhp) and places restriction on rich-burn or lean-burn engines. These restrictions are in the form of NOx and CO emission limits and the required submittal of a control plan to demonstrate compliance. Emergency standby engines, operating less than 200 hours per year are exempt from Rule 1110.1.

Rule 1110.2 — Emissions From Gas And Liquid Fueled Engines

This rule establishes NOx, VOC and CO emissions limits for stationary and portable engines over 50 bhp in rated capacity. Emergency standby engines, operating less than 200 hours per year are exempt from Rule 1110.2.

Rule 1134 — Emissions Of Oxides Of Nitrogen From Stationary Gas Turbines

This rule establishes limits for emissions of NOx from stationary gas turbines. NOx RECLAIM facilities regulated under Regulation XX are exempt from the provisions of Rule 1134 (Rule 2001).

Rule 1135 — Emissions Of Oxides Of Nitrogen From Electric Power Generating Systems

This rule establishes limits for emissions of NOx from electricity generating systems. NOx RECLAIM facilities regulated under Regulation XX are exempt from the provisions of Rule 1135 (Rule 2001).

Rule 1146 — Emissions Of Oxides Of Nitrogen From Industrial, Institutional, And Commercial Boilers, Steam Generators, And Process Heaters

This rule establishes limits for emissions of NOx and CO from industrial, institutional, and commercial steam generating units. However, heat recovery steam generators used to generate electricity from the waste heat of combustion turbines are exempt from the regulation. Additionally, NOx RECLAIM facilities

regulated under Regulation XX are exempt from the provisions of Rule 1146 (Rule 2001).

Regulation XIII — New Source Review

This regulation sets forth the pre-construction review requirements for new, modified or relocated facilities to ensure that these facilities do not interfere with progress in attainment of the national ambient air quality standards and that future economic growth in the SCAQMD is not unnecessarily restricted. This regulation limits the emissions of nonattainment contaminants and their precursors including ammonia by requiring the use of Best Available Control Technologies (BACT). However, this regulation does not apply to NOx or SOx emissions from power generating facilities that opt into the RECLAIM program (Regulation XX, below) for either or both of these pollutants.

Rule 1303 — Requirements

Approval of the Permit to Construct for any source of a nonattainment contaminant, ozone precursor, or ammonia requires installation of BACT, which for major sources would be at least as stringent as the Lowest Achievable Emissions Rate. Additionally, this rule specifies that applicants for permits of new and modified major stationary sources substantiate air quality impacts analyses with dispersion modeling, conduct an analysis of plume visibility at federal Class I areas, and demonstrate statewide compliance of facilities within the applicant's control.

Rule 1309.1 — Priority Reserve

The Priority Reserve provides credits for PM_{10}, SOx, and CO to specific priority sources. To be eligible, electric generating facilities must submit a complete application for certification to the Energy Commission between 2000 and 2003; be in compliance with all applicable District rules, variances, orders, and settlement agreements; pay a non-refundable mitigation fee for each pound per day of PM_{10}, SOx, and CO obtained from the Priority Reserve; show due diligence effort to secure available ERCs; and agree to be fully and legally operational within 3 years of the Energy Commission decision. Requirements to enter into long term contracts with the state of California are not applicable because the state is not seeking new contracts at this time. Energy Commission construction milestones reflect the timing mandated by this rule (see **General Conditions**).

Regulation XIV — Toxics And Other Non-Criteria Pollutants

Rule 1401 — New Source Review Of Toxic Air Contaminants

The allowable risks caused by toxic air contaminants from new stationary sources are limited by Regulation XIV and the toxics new source review rules.

These regulations are addressed in the **Public Health** section of this Staff Assessment.

Regulation XVII — Prevention Of Significant Deterioration

This SCAQMD regulation sets forth the pre-construction requirement for stationary sources to ensure that the air quality in clean air areas does not significantly deteriorate while maintaining a margin for future industrial growth. PSD pollutants in the South Coast Air Basin portion of Riverside County are NO_2 and SO_2. Based on emissions from the proposed equipment provided in AFC Section 5.2.3.2.2 (Table 5.2-27, pg. 5.2-44, Calpine 2001a), the IEEC would qualify as a major new source of NO_2. The U.S. EPA withdrew delegation of the PSD program from the SCAQMD on March 3, 2003, because of new federal requirements. As such, the U.S. EPA temporarily administers the PSD regulations in 40 CFR Part 52.21.

Regulation XX — Regional Clean Air Incentives Market (RECLAIM)

The Regional Clean Air Incentives Market (RECLAIM) is designed to allow facilities flexibility in achieving emission reduction requirements for NOx and SOx through controls, equipment modifications, reformulated products, operational changes, shutdowns, other reasonable mitigation measures or the purchase of excess emission reductions. The RECLAIM program establishes an initial allocation (beginning in 1994) and an ending allocation (originally set for 2003) for each facility within the program (Rule 2002). Each facility then reduces their allocation annually on a straight line from the initial to the ending. The RECLAIM program supercedes other district rules if there are conflicts. As a result, the RECLAIM program has its own rules for permitting, reporting, monitoring (including CEM), record keeping, variances, breakdowns, and a New Source Review program, which incorporates BACT requirements (Rules 2004, 2005, 2006 and 2012). RECLAIM also has its own banking rule, RECLAIM Trading Credits (RTCs), which is established in Rule 2007. The IEEC is exempt from the SOx RECLAIM program (Rule 2011) because it uses natural gas exclusively (per Rule 2001).

Regulation XXX — Title V Permits

The Title V federal program is the air pollution control permit system required by the federal Clean Air Act as amended in 1990. Regulation XXX defines the permit application requirements and issuance as well as compliance requirements associated with the program. Any new or modified major source which qualifies as a Title V facility must obtain a Title V permit prior to construction, operation or modification of that source. Regulation XXX also integrates the Title V permit with the RECLAIM program such that a project cannot proceed without both permits. Toxic air contaminants are regulated through requirements for maximum available control technology (MACT) that are

also implemented through Title V. The IEEC will be a major new source and thus will require a Title V permit.

Regulation XXXI — Acid Rain Permits

Title IV of the federal Clean Air Act provides for the issuance of acid rain permits for qualifying facilities. Regulation XXXI integrates the Title V program with the RECLAIM program. Regulation XXXI requires a subject facility to obtain emission allowances for SOx emissions as well as monitoring SOx, NOx and CO_2 emissions from the facility. Acid rain requirements are applicable to the IEEC project.

LOCAL – RIVERSIDE COUNTY LAND USE CONFORMITY

Riverside County provided a review of the relevant land use ordinance provisions for development of the project (Riverside 2002a). Certain provisions relate to air quality. Riverside County would require that all necessary measures to control dust be implemented by the applicant, including PM_{10} plans to reduce dust during grading, and that any impacts to the nearby Perris Union and Romoland School Districts be mitigated in accordance with California State Law. These provisions would apply to construction and operation of all project components.

ALTERNATIVES

FEDERAL

The proposed IEEC is not located on federal lands and consequently is not subject to review under the National Environmental Policy Act (NEPA), which would require an analysis of alternatives that meet the primary purposes and needs of the project. No other federal LORS are applicable to this alternatives analysis.

STATE

California Environmental Quality Act

The "Guidelines for Implementation of the California Environmental Quality Act (CEQA)," Title 14, California Code of Regulations Section 15126.6(a), by require 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 evaluate the No Project Alternative (Title 14, California Code Of Regulations, §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. The CEQA guidelines state that an environmental document does not have to consider an alternative of which the effect cannot be reasonably ascertained and of which the implementation is remote and speculative (Cal. Code Regs., tit. 14, §15125(d)(5)). However, if the range of alternatives is defined too narrowly, the analysis may be inadequate (*City of Santee v. County of San Diego* (4th Dist. 1989) 214 Cal. App. 3d 1438).

BIOLOGICAL RESOURCES

FEDERAL

Clean Air Act (CAA) of 1990

Certain national parks and wilderness areas are given special protection under the visibility program and for air impacts from new sources under the CAA and are referred to as Class I areas. The Federal Prevention of Significant Deterioration program specifically addresses impacts in Class I areas. This program is administered by the U.S Environmental Protection Agency (EPA) and South Coast Air Quality Management District (SCAQMD) and discussed in detail in the AIR QUALITY section of this FSA. This section specifically considers potential impacts to Class I wilderness areas from nitrogen deposition originated from plant emissions.

Clean Water Act (CWA) of 1977

Title 33, United States Code, sections 1251-1376, and Code of Federal Regulations, part 30, section 330.5(a)(26), prohibit the discharge of dredged or fill material into the waters of the United States without a permit. The administering agency is the U.S. Army Corps of Engineers (USACE). Under the CWA section 404, certain activities resulting in minimal impacts qualify for nationwide permits. In the case of the IEEC, Applicant has submitted an application for Nationwide Permit 12 for utility crossings (for a description see Federal Register (FR), Volume 67, Pages 2020-2095 published on January 15, 2002 and corrections in FR, Volume 67, Pages 2020-2095 published on February 13, 2002).

Endangered Species Act (ESA) of 1973

Title 16, United States Code, section 1531 *et seq.,* and Title 50, Code of Federal Regulations, part 17.1 *et seq.*, designate and provide for the protection of threatened and endangered plant and animal species, and their critical habitat. The administering agency is the U.S. Fish and Wildlife Service (USFWS).

Migratory Bird Treaty Act

Title 16, United States Code, sections 703 through 712, prohibit the take of migratory birds, including nests with viable eggs. The administering agency is the USFWS.

STATE

The administering agency for all state LORS below is the California Department of Fish and Game (CDFG), except for the CWA section 401 certification, as discussed in the last item in this section.

California Endangered Species Act (CESA) of 1984

Fish and Game Code sections 2050 through 2098 protect California's rare, threatened, and endangered species.

California Code of Regulations Title 14, Division 1, Subdivision 3, Chapter 3, sections 670.2 and 670.5 list plants and animals of California that are designated as rare, threatened, or endangered.

Fully Protected Species

Fish and Game Code sections 3511, 4700, 5050, and 5515 prohibit the take of animals that are classified as fully protected in California.

Nest or Eggs – Take, Possess, or Destroy

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.

Birds of Prey – Take, Possess, or Destroy

Fish and Game Code section 3503.5 specifically protects California's birds of prey in the orders Falconiformes and Strigiformes by making it unlawful to take, possess, or destroy any such birds of prey or to take, possess, or destroy the nest or eggs of any such bird.

Migratory Birds – Take or Possession

Fish and Game Code section 3513 protects California's migratory non-game birds by making it unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act or any part of such migratory non-game bird.

Significant Natural Areas

Fish and Game Code section 1930 *et seq.* designates certain areas in California such as refuges, natural sloughs, riparian areas and vernal pools as significant wildlife habitat.

Native Plant Protection Act of 1977

Fish and Game Code section 1900 *et seq.* designates rare, threatened, and endangered plants in the state of California.

Streambed Alteration Agreement

Fish and Game Code section 1603 *et seq.* regulates activities by private utilities 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 the CDFG in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit. The CDFG has indicated in the case of the IEEC site that no streambed alteration agreement is needed (FWEC 2002e; CDFG 2001a).

Regional Water Quality Control Board (RWQCB)

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 must request state certification that the proposed activity will not violate state and federal water quality standards. The project owner would be required to get a CWA section

401 certification from the Santa Ana Regional Water Quality Control Board (RWQCB). The RWQCB provides its certification after reviewing the federal Nationwide Permit(s) provided by the USACE.

LOCAL

Draft Western Riverside Multiple species Habitat Conservation Plan (Draft MSHCP)

The draft Western Riverside MSHCP is an element of the Riverside County Integrated Project. The draft MSHCP is designed to conserve open space, nature preserves and wildlife areas for over 150 species in western Riverside County. The reserve planning area considers: (1) existing public and quasi-public lands totaling approximately 347,000 acres; (2) criteria areas totaling approximately 153,000 acres that are brought into the reserve area as important corridors and linkages for the reserve area. Criteria areas are identified by groups of block-shaped areas with common conservation goals. The MSHCP will enable Riverside County to efficiently plan for future land development, while protecting the natural environment. A public review draft of this document, including a draft implementing agreement, was released in November 2002 (Riverside County 2002a). This draft provides a definition of criteria areas. The project site falls approximately within the center of the planning area covered by the draft MSHCP.

Stephens' Kangaroo Rat Habitat Conservation Plan (HCP)

The Stephens' kangaroo rat HCP is a 30-year plan approved in 1996 that is designed to acquire and permanently set-aside, maintain, manage and fund conservation, preservation, restoration and enhancement of the Stephens' kangaroo rat and its habitat. The HCP establishes suitable habitat areas where incidental take is permitted through a fee process and core reserve areas in occupied habitat where individual permits are required. The HCP and the creation of a designated fee area establishes a regional mechanism in western Riverside County through which otherwise lawful activities resulting in the incidental take of Stephens' kangaroo rat meet ESA and CESA requirements without the need to secure individual permits and agreements from the USFWS and the CDFG. All of the IEEC project features are located within the Stephens' kangaroo rat HCP fee area (Riverside County Habitat Conservation Agency, 1996).

Riverside County Ordinance No. 663.10, Stephens' Kangaroo Rat Mitigation Fee Ordinance

The ordinance establishes a Plan Fee Assessment Area and sets mitigation fees for development permits in areas covered by the Stephens' Kangaroo Rat Habitat Conservation Plan. Prior to issuance of a grading permit, the IEEC shall comply with the provisions of this ordinance, which generally requires the payment of the appropriate fee set forth in that ordinance. The amount of the fee to be paid may vary depending on the type of development application submitted and the applicability of any fee reduction or exemption provisions contained in

the ordinance. However, generally all applicants who cannot satisfy mitigation through onsite measures shall pay a fee of $500.00 per gross acre of the parcels proposed for development. Said fee shall be calculated based on the approved development project (Riverside 2002a).

Riverside County Comprehensive General Plan – Environmental Hazards and Resources Element

This Plan contains general policies regarding the protection and preservation of habitat and sensitive plant and wildlife species. Some of the more relevant elements of those policies include:

- Detailed biological reports, including inventories, impact assessment and mitigation shall be prepared and submitted;
- Disruption of sensitive vegetation shall be kept to a minimum, and adequate measures to protect vegetative species shall be taken;
- Where possible, landscaping shall be accomplished through the use of vegetation native to the project site;
- Adequate provision shall be made for the retention of existing trees and other flora; and
- Where necessary, immediate planting shall be planned and implemented.

Riverside County Ordinance 546.15, Fire Protection

Cleared zones are established beneath transmission lines and the areas around poles or towers. This ordinance would provide guidance in determining the affected area within and adjacent to the transmission line, as well as place constraints on any revegetation required within the project area.

Riverside County Ordinance 655, Light Pollution

This ordinance restricts the permitted use of certain light fixtures emitting into the night sky undesirable light rays. Although the intent is to reduce detrimental effects on astronomical observation and research, this ordinance would provide guidance that is relevant to the reduction of light pollution for wildlife and plants (e.g., use of low-pressure sodium lamps and shielding).

Riverside County Ordinance No. 695.1, Abatement of Hazardous Vegetation

This ordinance requires that all dry grass, Russian thistle (tumbleweed), or other flammable vegetation that constitutes a fire hazard that may endanger or damage neighboring property must be abated. As such, it identifies potential constraints to revegetation or landscaping that may be required.

Riverside County Ordinance No. 810, Establishing an Interim Open Space Mitigation Fee

The ordinance establishes and sets forth policies, regulations, and a fee to fund the acquisition of open space and preservation of habitat for wildlife necessary to mitigate the direct and cumulative environmental effects generated by new

development projects described and defined in this ordinance. Fees are established for projects in residential, commercial and industrial areas that fall within the fee area boundaries. The amount of the fee shall be calculated on the basis of the current rates for industrial projects and the "Project Area", which shall mean the area, measured in acres, from the adjacent road right-of-way to the limit of the project development.

Riverside County Land Use Conformity Analysis, Local Laws, Ordinances, Regulations and Standards

Riverside County (Riverside 2002a) provided this analysis to identify conditions that the County would impose if they were the authorizing agency. The conditions indirectly or directly related to biological resources are listed below.

- 10. General Conditions. Planning. 15 Use – Landscape Species. Drought tolerant and native plant species shall be preferred over non-drought tolerant and non-native species. However, the quantity and extent of those species shall depend on the project's climatic zone. Alternative types of low volume irrigation are encouraged to be used in order to conserve water.
- 10. General Conditions. Planning. 25 Use – Viable Landscaping. All plant materials within landscaped areas shall be maintained in a viable growth condition throughout the life of this permit.
- 10. General Conditions. Planning. 36 Use – Ord. 810 Open Space Fee (see County Ordinance 810 above).
- 30. Prior to Any Project Approval. BS Grade. 15 SP – Plant and Irrigate Slopes. Plant and irrigate all slopes greater than or equal to 3' in vertical height with grass or ground cover. Slopes that exceed 15' in vertical height are to be provided with shrubs and/or trees per county ordinance 457.
- 60. Prior to Grading Permit Issuance. Planning. 7 Use – Stephens' kangaroo rat Fee Condition (see County Ordinance 663 above).

CULTURAL RESOURCES

FEDERAL

Code of Federal Regulations, 36 CFR Part 61. Federal Guidelines for Historic Preservation Projects: The U.S. Secretary of the Interior has published a set of Standards and Guidelines for Archaeology and Historic Preservation. These are considered to be the appropriate professional methods and techniques for the preservation of archaeological and historic properties. The Secretary's standards and guidelines are used by federal agencies, such as the Forest Service, the Bureau of Land Management, and the National Park Service. The State Historic Preservation Office refers to these standards in its requirements for mitigation of impacts to cultural resources on public lands in California.

- Code of Federal Regulations, 36 CFR Part 800 et seq., the implementing regulations of Section 106 of the National Historic Preservation Act, 16 U.S.C. § 470, requires federal agencies to take into account the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning. The regulations implementing this act, which were revised in 1997, set forth procedures to be followed for determining eligibility of cultural resources, determining the effect of the undertaking on the historic properties, and how the effect will be taken into account. The eligibility criteria and the process described in these regulations are used by federal agencies. Very similar criteria and procedures are used by the state in identifying cultural resources eligible for listing in the California Register of Historical Resources.

STATE

- California Code of Regulations, Title 14, section 4852 defines the term "cultural resource" to include buildings, sites, structures, objects, and historic districts.
- Public Resources Code, Section 5000 establishes the California Register of Historical Resources (CRHR), establishes criteria for eligibility to the CRHR, and defines eligible resources. It identifies any unauthorized removal or destruction of historic resources on sites located on public land as a misdemeanor. It also prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn and establishes the penalty for possession of such artifacts with intent to sell or vandalize them as a felony. This section defines procedures for the notification of discovery of Native American artifacts or remains, and states that it is the policy of the State that Native American remains and associated grave artifacts shall be repatriated.
- The California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.; Tit 14, Cal. Code Regs., § 15000 et seq.) requires analysis of

potential environmental impacts of proposed projects and requires application of feasible mitigation measures.

- Public Resources Code section 21083.2 states that the lead agency determines whether a project may have a significant effect on "unique" archaeological resources; if so, an Environmental Impact Report (EIR) shall address these resources. If a potential for damage to unique archaeological resources can be demonstrated, the lead agency may require reasonable steps to preserve the resource in place. Otherwise, mitigation measures shall be required as prescribed in this section. The section discusses excavation as mitigation; limits the applicant's cost of mitigation; sets time frames for excavation; defines "unique and non-unique archaeological resources;" and provides for mitigation of unexpected resources. [The California Energy Commission process is a CEQA equivalent process and Staff Assessments replace the CEQA environmental documents.]
- Public Resources Code section 21084.1 indicates that a project may have a significant effect on the environment if it causes a substantial adverse change in the significance of a historic resource. The section further defines a "historic resource" and describes what constitutes a "significant" historic resource.
- CEQA Guidelines, Title 14, California Code of Regulations, section 15126.4(b), 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 discusses 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, section 15064.5 defines the term "historical resources," explains when a project may have a significant effect on historic resources, describes CEQA's applicability to archaeological sites, and specifies the relationship between "historical resources" and "unique archaeological resources."
- Penal Code, section 622 1/2 states that anyone who willfully damages an object or thing of archaeological or historic interest is guilty of a misdemeanor.
- California Health and Safety Code, section 7050.5 states that if human remains are discovered during construction, the project owner is required to contact the county coroner.

LOCAL

Riverside County

The County of Riverside protects cultural resources by reviewing development applications for compliance with CEQA. More specifically, the Riverside County

Comprehensive General Plan Land Use Standards require the Planning Department to determine whether proposed development will alter or destroy an historical site or an archaeological site, cause a substantial adverse change in the significance of an historical or archaeological resource (cf. California Code of Regulations 15064.5), disturb any human remains, or restrict existing religious or sacred uses.

Riverside County's General Plan identifies two objectives for Historic and Prehistoric Resources. The first objective requires that significant historic and prehistoric resources are identified and documented, and that there are provisions for the preservation of representative and worthy examples. The second objective recognizes the value of these resources and requires that land uses be assessed for impacts to these resources. Cultural resources technical reports submitted to the County must follow a required outline and the consultant must be pre-qualified to submit reports to the County.

FACILITY DESIGN

A list of the laws, ordinances, regulations and standards (LORS) applicable to each engineering discipline (civil, structural, mechanical and electrical) are described in Exhibit 1, (AFC - Calpine 2001a, Tables 6.1-1 and Appendices A through E). Some of these LORS include the California Building Code (CBC) and standards promulgated by the American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME), American Society for Testing and Materials (ASTM) and American Welding Society (AWS).

GEOLOGY, MINERAL RESOURCES, AND PALEONTOLOGY

FEDERAL

The proposed IEEC is not located on federal land. There are no federal LORS for geological hazards and resources or grading for the proposed project.

STATE AND LOCAL

The California Building Code (*CBC*) is a series of standards that are used in project investigation, design (Chapters 16 and 18) and construction (including grading and erosion control as found in Appendix Chapter 33). The *CBC* supplements the *UBC*'s grading and construction ordinances and regulations. This analysis relied on the current 2001 edition of the *CBC*.

The California Environmental Quality Act Guidelines Appendix G provides a checklist of questions that a lead agency should normally address if relevant to a project's environmental impacts.

- Section (V) (c) asks if the project will directly or indirectly destroy a unique paleontological resource or site or unique geological feature.
- Sections (VI) (a), (b), (c), (d), and (e) pose questions that are focused on whether or not the project would expose persons or structures to geologic hazards.
- Sections (X) (a) and (b) pose questions about the project's effect on mineral resources.

The "Measures for Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources: Standard Procedures" (Society of Vertebrate Paleontology [SVP], 1995) is a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. They were adopted in October 1995 by the Society of Vertebrate Paleontology (SVP), a national organization.

HAZARDOUS MATERIALS MANAGEMENT

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) established a nationwide emergency planning and response program and imposed reporting requirements for businesses which store, handle, or produce significant quantities of extremely hazardous materials. The CAA section on Risk Management Plans, codified in 42 USC section 112(r), requires the 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. Due to the petroleum-containing hazardous materials that will be used on this site, a Spill Prevention Control and Countermeasure Plan (SPCC) is required by Federal Regulations (Hazardous Waste Contingency Plan, 40 CFR, Part 112.7).

STATE

California Health and Safety Code Section 25534 directs facility owners, storing or handling acutely hazardous materials in reportable quantities, to develop a Risk Management Plan (RMP) and submit it to appropriate local authorities, the United States Environmental Protection Agency (EPA), and the designated local Administering Agency for review and approval. The plan must include an evaluation of the potential impacts associated with an accidental release, the likelihood of an accidental release occurring, the magnitude of potential human exposure, any preexisting evaluations or studies of the material, the likelihood of the substance being handled in the manner indicated, and the accident history of the material. This new, recently developed program supersedes the California Risk Management and Prevention Plan (RMPP).

Title 8, California Code of Regulations, Section 5189, requires facility owners to develop and implement effective safety management plans to insure that large quantities of hazardous materials are handled safely. While such 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 458 and Sections 500 –to 515, set forth requirements for design, construction and operation of vessels and equipment used to store and transfer ammonia. These sections generally codify the requirements of several industry codes, including the ASME Pressure Vessel Code, 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."

Gas Pipeline

The safety requirements for pipeline construction vary according to the surrounding population density and land uses. The pipeline classes are defined as follows (Title 49, Code of Federal Regulations, Part 192):

- Class 1: Pipelines in locations within 220 yards of ten or fewer buildings intended for human occupancy in any 1-mile segment.
- Class 2: Pipelines in locations within 220 yards of more than ten but fewer than 46 buildings intended for human occupancy in any 1-mile segment. This class also includes drainage ditches of public roads and railroad crossings.
- Class 3: Pipelines in locations within 220 yards of more than 46 buildings intended for human occupancy in any 1-mile segment, or where the pipeline is within 100 yards of any building or small well-defined outside area occupied by 20 or more people on at least 5 days a week for 10 weeks in any 12 month period (the days and weeks need not be consecutive).
- Class 4: Pipelines in locations within 220 yards of building s with 4 or more stories above ground in any 1-mile segment.

The natural gas pipeline will be designed for Class 3 service and will meet California Public Utilities Commission General Order 112-E and 58-A standards as well as various Southern California Gas standards. The natural gas pipeline must be constructed and operated in accordance with the Federal Department of Transportation (DOT) regulations, Title 49, Code of Federal Regulations (CFR), Parts 190, 191, and 192:

- Title 49, Code of Federal Regulations, Part 190 outlines the pipeline safety program procedures;
- Title 49, Code of Federal Regulations, Part 191, Transportation of Natural and Other Gas by Pipeline; Annual Reports, Incident Reports, and Safety-Related Condition Reports, requires operators of pipeline systems to notify the U.S. Department of Transportation of any reportable incident by telephone and then submit a written report within 30 days;
- Title 49, Code of Federal Regulations, Part 192, Transportation of Natural and Other Gas by Pipeline: 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

which characterize the surrounding land. This part contains regulations governing pipeline construction which must be followed for Class 2 and Class 3 pipelines.

LOCAL AND REGIONAL

The Uniform Fire Code (UFC) contains provisions regarding the storage and handling of hazardous materials in Articles 79 and 80. The latest revision to Article 80 was in 1997 (Uniform Fire Code, 1997) and includes minimum setback requirements for outdoor storage of ammonia.

The California Building Code (CCR Title 24, Part 9) contains requirements regarding the storage and handling of hazardous materials. The Chief Building Official must inspect and verify compliance with these requirements prior to issuance of an occupancy permit.

The Certified Unified Program Authority (CUPA) with responsibility to review RMPs and Hazardous Materials Business Plans is the Riverside County of Environmental Health Department. A Consolidated Hazardous Materials Permit from the County will be required.

LAND USE

FEDERAL

Federal Aviation Regulations, Part 77, Section 77.13 ff

The Federal Aviation Administration requires notification of development more than 200 feet in height for certain imaginary surface planes that extend outward and upward from the runways of designated airports.

STATE

There are no State of California land use LORS directly applicable to the proposed IEEC project.

LOCAL

Riverside County Comprehensive General Plan

Under California planning law, each incorporated City and each County must adopt a comprehensive, long-term General Plan that governs the physical development of all lands under its jurisdiction. The general plan is a broadly scoped planning document that defines large-scale planned development patterns over a relatively long timeframe. The Riverside County Comprehensive General Plan, in particular, calls for the County to examine significant projects and regional planning based on regional growth forecasts.

The General Plan consists of a statement of development policies and must include a diagram and text setting forth the objectives, principles, standards and proposals of the document. At a minimum, a General Plan has seven mandatory elements including, Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety.

General Plan goals are an expression of the County's long-term comprehensive planning for the physical development and growth of the County. Policies are statements setting forth guidelines and implementation measures towards achieving a specific goal. The following land use goals and policies are applicable to the proposed IEEC project.

LAND USE TABLE 1

Comprehensive General Plan Goals and Policies Relevant to the Proposed Project

Riverside County Comprehensive General Plan Goals
Land Use Element – Goal 4. The development of those areas where necessary public services can be provided and development is compatible with surrounding land uses.
Land Use Element – Goal 6. Orderly industrial development, which includes a variety of types of industry and the promotion of adequate supplies of suitable and properly distributed industrial land.
Perris Valley Land Use Planning Area Profile

LAND USE TABLE 1

Comprehensive General Plan Goals and Policies Relevant to the Proposed Project

Land Use Constraints – Schools within this Land Use Planning Area are already overcrowded and increased development will create further impaction, which would need to be mitigated.
Perris Valley Land Use Planning Area – Land Use Policies
Land uses within the Perris Valley Land Use Planning Area generally should be Category I (Heavy Urban – characterized by intensive commercial and industrial uses and higher residential densities) and Category II (Urban – characterized by many types and intensities or residential, commercial, and industrial land uses) land uses within the Sphere of Influence of the City of Perris and within the I-215 corridor and freeway access area.
Industrial land uses will generally be located near March Air Force Base and north of the City of Perris, west of I-215 and the BNSF railroad tracks.
The future development pattern within the Romoland Area should be a continuation of the existing pattern of Category III (Rural – characterized by rural land uses with lower residential densities and fewer public facilities and improvements) land uses.
Romoland Community Area Land Use Policies
3. Land Use Policy – Agriculture: Areas with prime agricultural land, Class I and II soils, shall be retained in agricultural land use to the greatest extent feasible, including economic considerations.
Public Facilities and Services Element
Utilities – The County recognizes the need for new utility services with growth and new development and has stated that it will provide necessary utilities in areas of minimal environmental and community impact. The County Planning Department will provide a clear statement of policies and standards on utilities for use in review by the California Public Utilities Commission and the utility companies and work with appropriate companies, agencies, and County departments to develop a planned approach to the future location of electrical utilities.
Energy Resources – The County's energy resource objectives include providing sites needed for power generation plants to provide adequate electrical energy for the County and the Southern California region while working with the Public Utilities Commission and utility companies to determine new sites for plants. Plants are to be sited at appropriate distances from existing communities and land use impacts must be consistent with General Plan.
Source: RIVERSIDE, 1992a

Riverside County Code – Titles 16 (Subdivisions) & 17 (Zoning)

The Riverside County Code Titles 16 and 17 discuss the use, division, and placement of facilities on land in the unincorporated area. In each land use district, dimensions for buildings, open spaces, and individual uses are regulated for the purpose of implementing the general plan of the county, protecting existing development, encouraging beneficial new development, and preventing overcrowding and congestion.

Title 16.44 discusses electrical facilities, requiring electrical power lines to be placed underground unless such placement: 1) would create soil erosion; 2) could use existing lines and poles; or 3) is not necessary in places where overhead facilities would be compatible with surrounding development. Distribution lines must be underground when running parallel to or crossing scenic and recreation areas, wildlife refuges, state and national monuments, or other unique natural resources.

County Code Title 17 lists the zone classifications and districts for Riverside County as enumerated in Ordinance 348: Land Use Ordinance of Riverside County.

Ordinance 348: Land Use Ordinance of Riverside County

Ordinance 348: Land Use Ordinance of Riverside County establishes zoning districts and contains regulations governing the use of land and improvement of real property within zoning districts. Ordinance 348 implements the land use policies of the Riverside County Comprehensive General Plan (RIVERSIDE 1992a; RIVERSIDE 2000).

The following table presents the zone classifications and districts applicable to the project.

Land Use Table 2

Zoning Ordinance Classifications and Districts Relevant to the Proposed Project

Zone Classifications and Districts
R-R Rural Residential Zone – Public utility uses: Structures and the pertinent facilities necessary and incidental to the development and transmission of electrical power and gas such as hydroelectric power plants, booster or conversion plants, transmission lines, pipelines and the like
M-SC Manufacturing, Service Commercial Zone – Industrial uses: Public utility substations and storage yards
M-M Manufacturing, Medium Zone - Industrial uses: Public utility substations and storage yards
M-H Manufacturing, Heavy Zone - Industrial uses: Public utility substations and storage yard.
Source: RIVERSIDE, 2001c.

Section 18.27(a)

Section 18.27(a) of Ordinance 348 describes the basis for the provision of variances. Section 18.27(a) states that variances may be granted when the application of zoning regulations prohibits the use of property due to the topography, shape, size, or location, while similar property in the vicinity under the same zoning classification enjoys the privileges denied the proposed use. The granting of a variance does not constitute a grant of special privileges that is inconsistent with the limitations on other properties in the vicinity and zone in which the property is situated.

Ordinance 810: Interim Open Space Mitigation Fee

Ordinance 810: Interim Open Space Mitigation Fee Ordinance establishes a development mitigation fee to supplement the financing of the acquisition of open space and to pay for development's fair share of the cost to protect and preserve wildlife, habitats, and open space within Riverside County. Fees for industrial development is currently assessed at $789/acre developed (RIVERSIDE 2001d).

Ordinance 460.139: Subdivision Map Act

The Subdivision Map Act (Public Resources Code Section 66410-66499.58) provides procedures and requirements regulating land divisions (subdivisions) and mergers, and determining parcel legality. The County of Riverside adopted

Ordinance 460.139 pursuant to the provisions of the Subdivision Map Act. All land divisions in the unincorporated area of the County of Riverside are subject to all of the applicable provisions of the Subdivision Map Act and this ordinance. In addition, under this ordinance, a merger of contiguous parcels requires the landowner to file an application for a Certificate of Parcel Merger. The application will be reviewed by the County Surveyor for recommendation to the County Planning Department, which has the authority to grant the Certificate of Parcel Merger. The parcels must be under common ownership, consistent with the zoning of the property, and cannot conflict with the location of any existing structures on the property (RIVERSIDE 1998; RIVERSIDE 2002E).

Sun City/Menifee Valley Community Plan

Although a part of the Riverside County Comprehensive General Plan, the Sun City/Menifee Valley Community Plan is intended to provide additional land use goals and policies that address the unique concerns and needs which exist within the Sun City/Menifee Valley area, thereby facilitating the implementation of policies and programs of the Comprehensive General Plan. The proposed project's natural gas compressor station, transmission line, natural gas pipeline, and wastewater pipeline are all located in or traverse land within the Sun City/Menifee Valley Community Plan area.

The linear facilities would follow existing right-of-ways (ROWs) or will be buried within existing roadways which have no land use zoning, and the natural gas compressor station site would be located on a parcel designated Light Industrial under the Sun City/Menifee Valley Community Plan. Under the plan, Light Industrial uses must be compatible with adjacent uses, including protective measures to assure compatibility; and must be designed to provide convenience and not be detrimental to residential and commercial areas.

Menifee North Specific Plan

The Menifee North Specific Plan implements the Riverside County General Plan for the Romoland, Homeland, and Winchester areas. The Specific Plan is not a component of the General Plan, as are area and community plans, but is a separately adopted document designed to systematically implement the policies of the General Plan (OPR 1998). The Specific Plan presents plans for land use, zoning, infrastructure, environmental resources, public service provisions, objectives, policies, and other implementation measures for 47 different planning areas totaling 1,636.2 acres. Planned industrial uses in the Specific Plan are designated to be in Areas 2 and 3, containing 197.5 acres of land intended to support the commercial uses in the region and blend in with the adjacent industrial uses.

The proposed IEEC is located in Planning Area 3 of the Menifee North Specific Plan; a 76.4-acre parcel zoned "Industrial" pursuant to the County's zoning ordinance.

City of Perris General Plan

A portion of the 4.9-mile wastewater pipeline crosses City of Perris lands designated as "Commercial Community." The City of Perris General Plan, adopted in October 1991, acts as the comprehensive guide for community planning in the City of Perris and its Sphere of Influence. The City of Perris combines the seven State-mandated general plan elements into the following six elements: Land Use, Housing, Circulation, Conservation/Open Space/Recreation, Public Safety, and Noise. City of Perris General Plan policies applicable to the proposed IEEC are provided in **LAND USE TABLE 3**.

Land Use Table 3
General Plan Goals and Policies Relevant to the Proposed Project

City General Plan Policies – Land Use Element
Policy 2.3: Manage the outward expansion of all future development to maintain continuity with existing development, provide for orderly expansion of infrastructure and public services, minimize impacts on natural environmental resources, and preserve designated or potential open spaces.
Commercial Community (CC): Land use designation supporting retail, professional office, and service-oriented business activities including a range of uses from convenience shopping to regional shopping centers up to 200,000 square feet in area. Sites are typically located on arterial roadways to accommodate higher traffic volumes and may also be accessible by public transit.

City of Perris Zoning Ordinance

The City of Perris zoning ordinance establishes zoning districts and contains regulations governing the use of land and improvement of real property within zoning districts. The Zoning Ordinance implements the land use policies of the City of Perris General Plan.

NOISE AND VIBRATION

FEDERAL

Under the Occupational Safety and Health Act of 1970 (OSHA) (29 U.S.C. § 651 et seq.), the Department of Labor, Occupational Safety and Health Administration (OSHA) has adopted regulations (29 C.F.R. § 1910.95) designed to protect workers against the effects of occupational noise exposure. These regulations list permissible noise exposure levels as a function of the amount of time during which the worker is exposed. The regulations further specify a hearing conservation program that involves monitoring the noise to which workers are exposed, assuring that workers are made aware of overexposure to noise, and periodically testing the workers' hearing to detect any degradation.

There are no federal laws governing off-site (community) noise.

The Federal Transit Administration (FTA) has published guidelines for assessing the impacts of ground-borne vibration associated with construction of rail projects, which have been applied by other jurisdictions to other types of projects. The FTA-recommended vibration standards are expressed in terms of the "vibration level," which is calculated from the peak particle velocity measured from ground-borne 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 of 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 each local governmental entity to perform noise studies and implement a noise element as part of its General Plan. In addition, the California Office of Planning and Research has published guidelines for preparing noise elements, which include recommendations for evaluating the compatibility of various land uses as a function of community noise exposure. The State land use compatibility guidelines are listed in **NOISE: Table 1**.

The State of California, Office of Noise Control, prepared a Model Community Noise Control Ordinance, which provides guidance for acceptable noise levels in the absence of local noise standards. The Model also contains a definition of a simple tone, or "pure tone," in terms of one-third octave band sound pressure levels that can be used to determine whether a noise source contains annoying tonal components. This Model further recommends that, when a pure tone is present, the applicable noise standard should be lowered (made more stringent) by 5 dBA.

NOISE: Table 1 - Land Use Compatibility for Community Noise Environment

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE – Ldn or CNEL (dB)													
	50		55		60		65		70		75		80	
Residential – Low Density Single Family, Duplex, Mobile Home														
Residential - Multi-Family														
Transient Lodging – Motel, Hotel														
Schools, Libraries, Churches, Hospitals, Nursing Homes														
Auditorium, Concert Hall, Amphitheaters														
Sports Arena, Outdoor Spectator Sports														
Playgrounds, Neighborhood Parks														
Golf Courses, Riding Stables, Water Recreation, Cemeteries														
Office Buildings, Business Commercial and Professional														
Industrial, Manufacturing, Utilities, Agriculture														

	Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable	New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design.
	Normally Unacceptable	New construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirement must be made and needed noise insulation features included in the design.
	Clearly Unacceptable	New construction or development generally should not be undertaken.

Source: State of California General Plan Guidelines, Office of Planning and Research, June 1990.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that significant environmental impacts be identified, and that such impacts be eliminated or mitigated to the extent feasible. Section XI of Appendix G of CEQA Guidelines (Cal. Code Regs., tit. 14, App. G) sets forth some characteristics that may signify

a potentially significant impact. Specifically, a significant effect from noise may exist if a project would result in:

a) exposure of persons to, or generation of, noise levels in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies;

b) exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;

c) a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or

d) a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

The Energy Commission staff, in applying Item c) above to the analysis of this and other projects, has concluded that a potential for a significant noise impact may exist where the noise of the project plus the background exceeds the background by 5 dBA L_{90} or more at the nearest location where the sound is likely to be perceived.

Noise due to construction activities is usually considered to be insignificant in terms of CEQA compliance if:

1. The construction activity is temporary,
2. Use of heavy equipment and noisy activities is limited to daytime hours, and
3. All feasible noise abatement measures are implemented for noise-producing equipment.

Cal-OSHA

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 the federal OSHA standards (**see NOISE: Appendix A, Table A4**).

LOCAL

Riverside County

The Comprehensive Riverside County General Plan defines the L_{dn} noise levels that are normally acceptable in residential areas as between 50 and 60 dBA. This same range is identified with respect to schools and other similar land uses.

The Menifee North Specific Plan dated 1997 identifies the maximum outdoor noise level of 65 dBA CNEL for residential land uses.

The County does not restrict the hours of construction.

POWER PLANT EFFICIENCY

FEDERAL

No federal laws apply to the efficiency of this project.

STATE

California Environmental Quality Act Guidelines

CEQA Guidelines state that the environmental analysis "…shall describe feasible measures which could minimize significant adverse impacts, including where relevant, inefficient and unnecessary consumption of energy" [Cal. Code Regs., tit. 14, § 15126.4(a)(1)]. Appendix F of the Guidelines further suggests consideration of such factors as the project's energy requirements and energy use efficiency; its effects on local and regional energy supplies and energy resources; its requirements for additional energy supply capacity; its compliance with existing energy standards; and any alternatives that could reduce wasteful, inefficient and unnecessary consumption of energy (Cal. Code regs., tit. 14, § 15000 et seq., Appendix F).

LOCAL

No local or county ordinances apply to power plant efficiency.

POWER PLANT RELIABILITY

Presently, there are no laws, ordinances, regulations or standards (LORS) that establish either power plant reliability criteria or procedures for attaining reliable operation. However, the Energy Commission must make findings as to the manner in which the project is to be designed, sited and operated to ensure safe and reliable operation [Cal. Code Regs., tit. 20, § 1752(c)].

PUBLIC HEALTH

FEDERAL

Clean Air Act section 112 (42 U.S. Code § 7412)

Section 112 requires new sources that emit more than ten 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 section 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. 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

This section 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 recirculating water to minimize the growth of Legionella and other micro-organisms.

LOCAL

South Coast Air Quality Management District Rule 1401

This rule requires a risk assessment or risk screening analysis to be performed for new or modified facilities that emit one or more toxic air contaminants that exceed specified amounts.

SOCIOECONOMICS

STATE

California Government Code, Sections 65996-65997

As amended by SB 50 (Stats. 1998, ch. 407, sec. 23), these sections state that public agencies may not impose fees, charges, or other financial requirements to offset the cost for school facilities, except the statutorily required school impact fees.

14 California Code of Regulations, Section 15131

The California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000 through 15387 provide the guidelines for implementation of the California Environmental Quality Act (CEQA). Section 15131 provides direction for the evaluation of a proposed project's potential economic and social effects, including:

- Economic or social effects of a project shall not be treated as significant effects on the environment.
- Economic or social factors of a project may be used to determine the significance of physical changes caused by the project.
- Economic, social and particularly housing factors shall be considered by public agencies together with technological and environmental factors in deciding whether changes in a project are feasible to reduce and or avoid the significant effects on the environment.

SOILS AND WATER RESOURCES

FEDERAL

Clean Water Act

The Clean Water Act (33 USC § 1257 et seq.) requires states to set standards to protect water quality through the regulation of point source and certain non-point source discharges to surface water. These discharges are regulated through requirements set forth in specific or general National Pollutant Discharge Elimination System (NPDES) permits. Stormwater discharges during construction and operation of a facility, and incidental non-stormwater discharges associated with pipeline construction also fall under this act, and are addressed through a general NPDES permit. In California, requirements of the Clean Water Act regarding regulation of point source discharges and storm water discharges are delegated to, and administered by the nine Regional Water Quality Control Boards (RWQCBs).

Section 404 Permit to Place or Discharge Dredged or Fill Material

Section 404 of the Clean Water Act regulates the discharge of dredged or fill material into waters of the United States, including rivers, streams and wetlands. The Army Corps of Engineers (ACOE) issues site-specific or general (nationwide) permits for such discharges.

Section 401 Water Quality Certification

Section 401 of the Clean Water Act provides for state certification that federal permits allowing discharge of dredged or fill material into waters of the United States will not violate federal and state water quality standards. These certifications are issued by the RWQCBs. Proposed linear facilities may cross ephemeral drainages that are considered waters of the United States, and thus be subject to Section 401 Water Quality Certification.

STATE

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. The waste, unreasonable use, or unreasonable method of use of water is prohibited. The conservation of such waters is to be exercised with a view to the reasonable and beneficial use in the interest of the people and for the public welfare. The right to water or to the use or flow of water in or from any natural stream or water course in the State is and shall be limited to such water as shall be reasonably required for the beneficial use to be served, and such right does not and shall not extend to the waste or unreasonable use, or unreasonable method of use, or unreasonable method of diversion of water. This section is self-executing, and the Legislature may also enact laws in the furtherance of the policy contained in this section.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1967, Water Code Section 13000 et seq., requires the State Water Resources Control Board (SWRCB) and the nine RWQCBs to adopt water quality criteria to protect state waters. These criteria include the identification of beneficial uses, narrative and numerical water quality standards and implementation procedures. The criteria for the IEEC are contained in the Santa Ana Regional Water Quality Control Plan. These standards are typically applied to the proposed project through the Waste Discharge Requirements (WDRs) permit. The Porter-Cologne Water Quality Control Act also requires the SWRCB and nine RWQCBs to ensure the protection of water quality through the regulation of waste discharges to land. Such discharges are regulated under Title 23, California Code of Regulations, Chapter 15, Division 3. These regulations require that the RWQCB issue Waste Discharge Requirements specifying conditions regarding the construction, operation, monitoring and closure of the waste disposal site, including injection wells and evaporation ponds for waste disposal.

California Water Code

Section 13551 of the Water Code prohibits the use of "…water from any source of quality suitable for potable domestic use for non-potable uses, including …industrial… uses, if suitable recycled water is available…" given conditions set forth in Section 13550. These conditions take into account the quality and cost of the water, the potential for public health impacts and the effects on downstream water rights, beneficial uses and biological resources.

Section 13552.6 of the Water Code specifically identifies that the use of potable domestic water for cooling towers, if suitable recycled water is available, is an unreasonable use of water. The availability of recycled water is based upon a number of criteria that must be taken into account by the SWRCB. These criteria are that: the quality and quantity of the reclaimed water are suitable for the use; the cost is reasonable, and the use is not detrimental to public health, will not impact downstream users or biological resources, and will not degrade water quality.

Section 13552.8 of the Water Code states that any public agency may require the use of recycled water in cooling towers if certain criteria are met. These criteria include that recycled water is available and meets the requirements set forth in Section 13550, the use does not adversely affect any existing water right, and if there is public exposure to cooling tower mist using recycled water, appropriate mitigation or control is necessary.

The Safe Drinking Water and Toxic Enforcement Act of 1986, Health and Safety Code section 25249.5 et seq., prohibits the discharge or release of chemicals known to cause cancer or reproductive toxicity into drinking water sources.

California Code of Regulations Title 23, Division 3, Chapter 16 governs the installation and maintenance of underground storage tanks. These regulations are intended to protect waters of the state from discharges of hazardous substances from underground storage tanks by establishing construction and monitoring requirements for new underground storage tanks, and are administered by the Regional Water Quality Control Boards.

Tertiary Wastewater Treatment Permit

Under Title 22 of the California Code of Regulations, the California Department of Health Services reviews and approves wastewater treatment systems to meet treatment standards. Title 22 recognizes that there are different recycled water uses, and depending on the risk of human contact, different treatment standards are permissible. For industrial cooling, Title 22 reclaimed water needs to be a minimum of disinfected secondary-23 (Most Probable Number of 23 coli form bacteria/100ml). For unrestricted use of reclaimed water, such as in a distribution network serving multiple users, tertiary treatment is required to meet a standard of 2.2 MPN/100 ml.

STATE POLICIES

State Water Resources Control Board

The SWRCB has also adopted a number of policies that provide guidelines for water quality protection. The principle policy of the SWRCB which 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 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. This SWRCB policy requires that power plant cooling water should come from, in order of priority: wastewater being discharged to the ocean, ocean water, brackish water from natural sources or irrigation return flow, inland waste waters of low total dissolved solids, and other inland waters. This policy also addresses cooling water discharge prohibitions.

State Water Resources Control Board Resolution No. 68-16 (the “Anti-Degradation Policy”) declares the State’s policy that, among other things, the discharging of wastes will not pollute or result in a nuisance.

State Water Resources Control Board Resolution 77-1 encourages and promotes reclaimed water use for non-potable purposes. The California Water Recycling Act of 1991 makes the following findings and declarations;

1. The State is subject to periodic drought conditions.
2. The development of traditional water resources in California has not kept pace with the State’s population, which is growing at the rate of over 700,000 per year and which is anticipated to reach 36 million by the year 2010.

3. There is a need for a reliable source of water for uses not related to the supply of potable water to protect investments in agriculture, green belts, and recreation, and to replenish groundwater basins, and protect and enhance fisheries, wildlife habitat, and riparian areas.
4. The environmental benefits of recycled water include a reduced demand for water in the Sacramento-San Joaquin Delta, which is otherwise needed to maintain water quality, reduced discharge of waste into the ocean, and the enhancement of groundwater basins, recreation, fisheries, and wetlands.
5. The use of recycled water has proven to be safe from a public health standpoint, and the State Department of Health Services (DHS) is updating regulations for the use of recycled water
6. The use of recycled water is a cost-effective, reliable method of helping to meet California's water supply needs.
7. The development of the infrastructure to distribute recycled water will provide jobs and enhance the economy of the state.
8. Retail water suppliers and recycled water producers and wholesalers should promote the substitution of recycled water for potable water and imported water in order to maximize the appropriate cost-effective use of recycled water in California.
9. Recycled water producers, retail water suppliers, and entities responsible for groundwater replenishment should cooperate in joint technical, economic, and environmental studies, as appropriate, to determine the feasibility of providing recycled water service.
10. Retail water suppliers and recycled water producers and wholesalers should be encouraged to enter into contracts to facilitate the service of recycled and potable water by the retail water suppliers in their service areas in the most efficient and cost-effective manner.
11. Recycled water producers and wholesalers and entities responsible for groundwater replenishment should be encouraged to enter into contracts to facilitate the use of recycled water for groundwater replenishment if recycled water is available and the authorities having jurisdiction approve its use.
12. Wholesale prices set by recycled water producers and recycled water wholesalers, and rates and retail water suppliers are authorized to charge for recycled water, should reflect an equitable sharing of the costs and benefits associated with the development and use of recycled water.

LOCAL

County of Riverside

The County of Riverside specifies criteria for Grading and Erosion Control and for design of storm water facilities associated with the proposed IEEC project. The County also assesses a Flood Mitigation Fee in accordance with Riverside County's Homeland/Romoland Area Drainage Plan (ADP) to assist in providing

revenue for establishing adequate community drainage facilities (Riverside 2002a).

Eastern Municipal Water District

EMWD requires a Service Agreement for providing a host of water and wastewater services proposed for the IEEC project. The Service Agreement will include Recycled Water for supplying process and cooling water, Potable Water for domestic and fire protection, Process Wastewater to be discharged into the Non-Reclaimable Waste Line, and Sanitary Wastewater service.

TRANSMISSION LINE SAFETY AND NUISANCE

Discussed below by subject area are design-related LORS applicable to the physical impacts of the overhead transmission lines as proposed for IEEC. The potential for these impacts is assessed in terms of compliance with specific federal or state regulations or established industry standards and practices. There presently are no local laws or regulations specifically aimed at the physical structure or dimensions of electric power lines to limit the impacts noted above. However, many local jurisdictions require such lines to be located underground because of the potential for visual impacts on the landscape.

AVIATION SAFETY

Any potential hazard to area aircraft would relate to the potential for collision in the navigable air space. The applicable federal LORS as discussed below are intended to ensure the distance and visibility necessary to prevent such collisions.

Federal

- Title 14, Part 77 of the Code of Federal Regulations (CFR), "Objects Affecting the Navigation Space." Provisions of these regulations specify the criteria used by the Federal Aviation Administration (FAA) for determining whether a "Notice of Proposed Construction or Alteration" is required for potential obstruction hazards. The need for such a notice depends on factors related to the height of the structure, the slope of an imaginary surface from the end of nearby runways to the top of the structure, and the length of the runway involved. Such notification allows the FAA to ensure that the structure is located to avoid the aviation hazards of concern.
- FAA Advisory Circular (AC) No. 70/460-2H, "Proposed Construction and or Alteration of Objects that May Affect the Navigation Space." This circular informs each proponent of a project that could pose an aviation hazard of the need to file the "Notice of Proposed Construction or Alteration" (Form 7640) with the FAA.
- FAA AC No. 70/460-1G, "Obstruction Marking and Lighting." This circular 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

Transmission line-related radio-frequency interference is one of the indirect effects of line operation produced by the physical interactions of line electric fields. Since electric fields are unable to penetrate most materials, including soil, such interference and other electric field effects are not associated with underground lines. The level of any such interference usually depends on the magnitude of the electric fields involved. Because of this, the potential for such

impacts could be assessed from field strength estimates obtained for the line. The following regulations are intended to ensure that such lines are located away from areas of potential interference and that any interference is mitigated whenever it occurs.

Federal

- Federal Communications Commission (FCC) regulations in Title 47 CFR, Section 15.25. Provisions of these regulations prohibit operation of any devices producing force fields that interfere with radio communications, even if (as with transmission lines) such devices are not intentionally designed to produce radio-frequency energy. Such interference is due to the radio noise produced by the action of the electric fields on the surface of the energized conductor. The process involved is known as corona discharge but is referred to as spark gap electric discharge when it occurs within gaps between the conductor and insulators or metal fittings. When generated, such noise manifests itself as perceivable interference with radio or television signal reception, or interference with other forms of radio-frequency communication. Since the level of interference depends on factors such as line voltage, distance from the line to the receiving device, orientation of the antenna, signal level, line configuration and weather conditions, maximum interference levels are not specified as design criteria for modern transmission lines. The FCC requires each line operator to mitigate all complaints about interference on a case-specific basis. Staff recommends a specific condition of certification (**TLSN-3**) to ensure compliance with this FCC requirement.

State

- General Order 52 (GO-52), California Public Utilities Commission (CPUC). Provisions of this order govern the construction and operation of power and communications lines and specifically deal with measures to prevent or mitigate inductive interference. Such interference is produced by the electric field induced by the line in the antenna of a radio signal receiver.

Several design and maintenance options are available for minimizing these electric field-related impacts. When incorporated into the line design and operation, such measures also serve to reduce the line-related audible noise discussed below.

AUDIBLE NOISE

Industry Standards

There are no design-specific federal, state, or local regulations to limit the audible noise from transmission lines. As with radio noise, such noise is limited instead through design, construction, or maintenance practices established from industry research and experience as effective without significant impacts on line safety, efficiency maintainability and reliability. All modern overhead high-voltage lines

are designed to assure compliance. As with radio-frequency noise, such audible noise usually results from the action of the electric field at the surface of the line conductor and could be perceived as a characteristic crackling, frying or hissing sound or hum, especially in wet weather. Since the noise level depends on the strength of the line electric field, the potential for perception can be assessed from estimates of the field strengths expected during operation. Such noise is usually generated during rainfall, but mainly from overhead lines of 345 kV or higher (Electric Power Research Institute 1982).

NUISANCE SHOCKS

Industry Standards

There are no design-specific federal, state, or local regulations to limit nuisance shocks in the transmission line environment. For modern overhead high-voltage lines, such shocks are effectively minimized through grounding procedures specified in the National Electrical Safety Code (NESC) and the joint guidelines of the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). 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. Such electric charges are induced in different ways by the line electric and magnetic fields. As with the proposed overhead line, the applicant will be responsible in all cases for ensuring compliance with these grounding-related practices within the right-of-way. Staff recommends a specific condition of certification (**TLSN-2**) to ensure such grounding along the proposed route.

FIRE HAZARDS

The fire hazards addressed through the following regulations are those that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and nearby trees and other combustible objects.

State

- General Order 95 (GO-95), CPUC, “Rules for Overhead Electric Line Construction” specifies tree-trimming criteria to minimize the potential for power line-related fires.
- Title 14, California Code of Regulations, Section 1250: “Fire Prevention Standards for Electric Utilities” specifies utility-related measures for fire prevention.

HAZARDOUS SHOCKS

The hazardous shocks addressed through the following regulations and standards are those that could result from direct or indirect contact between an individual and the energized line whether overhead or underground. Such shocks are capable of serious physiological harm or death and remain a driving force in the design and operation of transmission and other high-voltage lines.

State

- GO-95, CPUC. "Rules for Overhead Line Construction". These rules specify uniform statewide requirements for overhead line construction regarding ground clearance, grounding, maintenance and inspection. Implementing these requirements ensures the safety of the general public and line workers.
- Title 8, California Code of Regulations, Sections 2700 through 2974. "High Voltage Electric Safety Orders". These safety orders establish essential requirements and minimum standards for safely installing, operating, working around, and maintaining electrical installations and equipment

Local

There are no shock hazard-related requirements on the physical dimensions of power lines at the local level.

Industrial Standards

No design-specific federal regulations have been established to prevent hazardous shocks from overhead power lines. Safety is assured within the industry from compliance with the requirements in the National Electrical Safety Code, Part 2: Safety Rules for Overhead Lines. These provisions specify the minimum national safe operating clearances applicable in areas where the line might be accessible to the public. They are intended to minimize the potential for direct or indirect contact with the energized line.

ELECTRIC AND MAGNETIC FIELD (EMF) EXPOSURE

The possibility of deleterious health effects from electric and magnetic field exposure has increased public concern in recent years about living near high-voltage lines. Both fields occur together whenever electricity flows, hence the general practice of describing exposure to them together as EMF exposure. The available evidence as evaluated by CPUC, other regulatory agencies, and staff, has not established that such fields pose a specific health hazard to exposed humans. However, staff considers it important, as does the CPUC, to note that while such a hazard has not been specifically established from the available evidence, the same evidence does not serve as proof of a definite lack of a hazard. Staff, therefore, considers it appropriate in light of present uncertainty, to recommend reduction of such fields as feasible without affecting safety, efficiency, reliability and maintainability.

While there is considerable uncertainty about the EMF/health effects issue, the following facts have been established from the available information and have been used to establish existing policies:

- Any exposure-related health risk to the exposed individual will likely be small.

- The most biologically significant types of exposures have not been established.
- Most health concerns are about the magnetic field.
- The measures employed for such field reduction can affect line safety, reliability, efficiency and maintainability, depending on the type and extent of such measures.

State

In California, the CPUC (which regulates the installation and operation of high-voltage lines in California) has determined that only no-cost or low-cost measures are presently justified in any effort to reduce power line fields beyond levels existing before the present health concern arose. The CPUC has further determined that such reduction should be made only in connection with new or modified lines. It required each utility within its jurisdiction to establish EMF-reducing measures and incorporate such measures into the designs for all new or upgraded power lines and related facilities within their respective service areas. The CPUC further established specific limits on the resources to be used in each case for field reduction. Such limitations were intended by the CPUC to apply to the cost of any redesign to reduce field strength or relocation to reduce exposure. Utilities not within the jurisdiction of the CPUC voluntarily comply with these CPUC requirements. This CPUC policy resulted from assessments made to implement CPUC Decision 93-11-013.

In keeping with this CPUC policy, the CEC requires a showing that each proposed overhead line will be designed according to the EMF-reducing design guidelines applicable to the utility service area involved. These field-reducing measures can impact line operation if applied without appropriate regard for environmental and other local issues bearing on safety, reliability, efficiency and maintainability. Therefore, it is up to each applicant to ensure that such measures are applied to an extent without significant impacts on line operation and safety. The extent of such applications would be reflected by the ground-level field strengths as measured during operation. When estimated or measured for lines of similar voltage and current-carrying capacity, such field strength values can be used by staff and other regulatory agencies to assess each line for effectiveness at field strength reduction. These field strengths can be estimated for any given design using established procedures. Estimates are specified for a height of one meter above the ground, in units of kilovolts per meter (kV/m), for the electric field, and milligauss (mG) for the companion magnetic field. Their magnitude depends on line voltage (in the case of electric fields), the geometry of the structures, degree of cancellation or addition from nearby conductors, distance between conductors and, in the case of magnetic fields, amount of current in the line.

Since each new or modified line in California is currently required to be designed according to the EMF-reducing guidelines of the utility in the service area involved, its fields are required under existing CPUC policies to be of similar

intensity to fields from similar lines in that service area. A condition of certification is usually proposed by staff to assess implementation of the design measures necessary. The applicable condition for this project is **TLSN-4**.

Industrial Standards

There are no health-based federal regulations or industry codes specifying environmental limits on the strengths of fields from power lines. However, the federal government continues to conduct and encourage research necessary for an appropriate policy on the EMF health issue.

In the face of the present uncertainty, several states have opted for design-driven regulations ensuring that fields from new lines are generally similar in intensity to those from existing lines. Some states (Florida, Minnesota, New Jersey, New York, Montana) have set specific environmental limits on one or both fields in this regard. These limits are, however, not based on any specific health effects. Most regulatory agencies believe that health-based limits are inappropriate at this time and that the present knowledge of the issue does not justify any retrofit of existing lines.

Before the present health-based concern developed, measures to reduce field effects from power line operations were mostly aimed at the electric field component whose effects can manifest themselves as the previously noted radio noise, audible noise and nuisance shocks. The present focus is on the magnetic field because only it can penetrate the soil, building and other materials to potentially produce the types of health impacts at the root of the present concern. Focusing on the strong magnetic fields from the more visible overhead transmission and other high-voltage power lines, it important for perspective to note that an individual in a home could be exposed for short periods to much stronger fields while using some common household appliances (National Institute of Environmental Health Services and the U.S Department of Energy, 1995). Scientists have not established which of these types of exposures would be more biologically meaningful in the individual.

TRANSMISSION SYSTEM ENGINEERING

- California Public Utilities Commission (CPUC) General Order 95 (GO-95), "Rules for Overhead Electric Line Construction," formulates uniform requirements for construction of overhead lines. Compliance with this order ensures adequate service and safety to persons engaged in the construction, maintenance, operation, or use of overhead electric lines and to the public in general.
- The National Electric Safety Code, 1999, provides electrical, mechanical, civil and structural requirements for overhead electric line construction and operation.
- Western Systems Coordinating Council (WSCC) Reliability Criteria provides the performance standards used in assessing the reliability of the interconnected system. These Reliability Criteria require the continuity of service to loads as the first priority and preservation of interconnected operation as a secondary priority. The WSCC Reliability Criteria includes the Reliability Criteria for Transmission System Planning, Power Supply Design Criteria, and Minimum Operating Reliability Criteria. Analysis of the WSCC system is based to a large degree on WSCC Section 4 "Criteria for Transmission System Contingency Performance," which requires that the results of power flow and stability simulations verify established performance levels. Performance levels are defined by specifying the allowable variations in voltage, frequency and loading that may occur on systems other than the one in which a disturbance originated. Levels of performance range from no significant adverse effect outside a system area during a minor disturbance (loss of load or a single transmission element out of service) to a performance level that only seeks to prevent system cascading and the subsequent blackout of islanded areas during major disturbances (such as loss of all lines in a right of way). While controlled loss of generation, load, or system separation is permitted in extreme circumstances, their uncontrolled loss is not permitted (WSCC 1998).
- North American Electric Reliability Council (NERC) Planning Standards provide policies, standards, principles and guidelines to assure the adequacy and security of the electric transmission system. With regard to power flow and stability simulations, these Planning Standards are similar to WSCC's Criteria for Transmission System Contingency Performance. The NERC planning standards provide for acceptable system performance under normal and contingency conditions; however, the NERC planning standards apply not only to interconnected system operation but also to individual service areas (NERC 1998).
- Cal-ISO Reliability Criteria also provide policies, standards, principles and guidelines to assure the adequacy and security of the electric transmission system. With regard to power flow and stability simulations, these

Planning Standards are similar to WSCC's Criteria for Transmission System Contingency Performance and the NERC Planning Standards. The Cal-ISO Reliability Criteria incorporate the WSCC Criteria and NERC Planning Standards. However, the Cal-ISO Reliability Criteria also provide some additional requirements that are not found in the WSCC Criteria or the NERC Planning Standards. The Cal-ISO Reliability Criteria apply to all existing and proposed facilities interconnecting to the Cal-ISO controlled grid. It also applies when there are any impacts to the Cal-ISO grid due to facilities interconnecting to adjacent controlled grids not operated by the Cal-ISO.

TRAFFIC AND TRANSPORTATION

FEDERAL

- Title 49, Code of Federal Regulations. Chapter 11, Subchapter C. These authorities establish national standards for the transportation of hazardous materials.
- Title 49, Code of Federal Regulations, Sections 171-177, governs the transportation of hazardous materials, the type of materials defined as hazardous, and the marking of the transportation vehicles.
- Title 49, Code of Federal Regulations, Sections 350-399, and Appendices A-G, Federal Motor Carrier Regulations, addresses safety considerations for the transport of goods, materials, and substances over public highways.
- Part 77, Federal Aviation Administration (FAA) Regulations, establishes standards for determining obstructions in navigable airspace and sets forth requirements for notification to the FAA of proposed construction. Notification is also required if the structure or obstruction is more than a specified height and falls within any restricted airspace in the approach to airports.

STATE

- The California Vehicle Code and the Streets and Highways Code contain requirements applicable to the licensing of drivers and vehicles, the transportation of hazardous materials and rights-of-way. In addition, the California Health and Safety Code addresses the transportation of hazardous materials.

  Provisions within the California Vehicle Code are as follows:

- Section 353 defines hazardous materials.
- Sections 31303-31309 regulate the highway transportation of hazardous materials, the routes used, and restrictions thereon.
- Section 31030 identifies commercial shipping routes for specified waste streams.
- Sections 31600-31620 regulate the transportation of explosive materials.
- Sections 32000-32053 regulate the licensing of carriers of hazardous materials and include noticing requirements.
- Sections 32100-32109 establish special requirements for the transportation of inhalation hazards and poisonous gases.

- Sections 34000-34121 establish special requirements for the transportation of flammable and combustible liquids over public roads and highways.
- Sections 34500, 34501, 34501.2, 34501.3, 34501.4, 34501.10, 34505.5-7. 34506, 34507.5, and 34510-11 regulate the safe operation of vehicles, including those used for the transportation of hazardous materials.
- Section 25160 et seq. addresses the safe transport of hazardous materials.
- Sections 2500-2505 authorize the issuance of licenses by the Commissioner of the California Highway Patrol for the transportation of hazardous materials including explosives.
- Sections 13369, 15275, and 15278 address the licensing of drivers and the classifications of licenses required for the operation of particular types of vehicles. These sections also require certificates permitting the operation of vehicles transporting hazardous materials.
- California Streets and Highways Code, sections 117 and 660-72, and California Vehicle Code, section 35780 et seq., require permits for the transportation of oversized loads on county roads.
- California Street and Highways Code, sections 660, 670, 1450, 1460, 1470, and 1480, regulates right-of-way encroachment and the granting of permits for encroachments on state and county roads.
- Per the California Department of Transportation (Caltrans), all construction within the public right-of-way will need to comply with the "Manual of Traffic Controls for Construction and Maintenance of Work Zones".

LOCAL

- Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP). Establishes regional transportation goals, policies, objectives, and actions for various modes of transportation, including intermodal and multimodal transportation activities. SCAG is the overall administering agency, and the RTP and the related Regional Transportation Improvement Plan are implemented by Riverside County.
- SCAG Traffic Congestion Relief Program. Establishes guidelines for development of a balanced transportation system, relating population and traffic growth, land use decisions, level of service (LOS) performance standards, and air quality improvement. SCAG is the administering agency.
- Riverside County Comprehensive General Plan. Establishes goals and policies, and identifies implementation measures for County traffic and

transportation systems. The Riverside County Board of Supervisors is the administering agency.

- Riverside County Ordinance No. 748 requires project developers to pay a Signal Mitigation Program fee at the time of occupancy or final building permit.

VISUAL RESOURCES

FEDERAL

The proposed project is located on private land. Therefore, the project is not subject to federal regulations pertaining to visual resources.

STATE

In the project vicinity, no roads or highways are either designated or eligible for State Scenic Highway status (Caltrans 2002) and no other state LORS apply.

LOCAL

The proposed project would be subject to LORS of several local jurisdictions. All of the proposed project's facilities except the short segment of the wastewater pipeline that falls within the City of Perris are subject to the Riverside County Comprehensive General Plan. The proposed Energy Center site and portions of the water lines, gas line, and transmission interconnection to Valley Substation are located within the jurisdiction of the Menifee North Specific Plan. The portion of the wastewater pipeline from Milepost (MP) 1.2 to MP 4.9 is located within the jurisdiction of the Sun City/Menifee Valley Community Plan. A 0.4-mile segment of the wastewater pipeline that would be installed within the right-of-way of McLaughlin Road would be subject to the City of Perris General Plan.

Interstate 215 (I-215) south of McCall Boulevard, McCall Boulevard between I-215 and Menifee Road, and Menifee Road between McCall Boulevard and SR-74 have been designated Eligible County Scenic Highways. Relevant local LORS and an assessment of the project's LORS consistency are presented in a later section of this analysis.

WASTE MANAGEMENT

FEDERAL

Resource Conservation and Recovery Act (42 U.S.C. § 6922)

Resource Conservation and Recovery Act (RCRA) establishes requirements for the management of hazardous wastes from the time of generation to the point of ultimate treatment or disposal. Section 6922 requires generators of hazardous waste to comply with requirements regarding:

- record keeping practices that identify quantities of hazardous wastes generated and their disposition;
- labeling practices and use of appropriate containers;
- use of a manifest system for transportation; and
- submission of periodic reports to the U.S. Environmental Protection Agency (EPA) or authorized state agency.

Title 40, Code of Federal Regulations, part 260

These sections contain regulations promulgated by the EPA to implement the requirements of RCRA as described above. Characteristics of hazardous waste are described in terms of ignitability, corrosivity, reactivity, and toxicity; and specific types of wastes are listed.

STATE

California Health and Safety Code, Section 25100 et seq. (Hazardous Waste Control Act of 1972, as amended).

This act creates the framework under which hazardous wastes must be managed in California. It mandates the State Department of Health Services (now the Department of Toxic Substances Control (DTSC) under the California Environmental Protection Agency, or Cal EPA) to develop and publish a list of hazardous and extremely hazardous wastes, and to develop and adopt criteria and guidelines for the identification of such wastes. It also requires hazardous waste generators to file notification statements with Cal EPA and creates a manifest system to be used when transporting such wastes.

Title 14, California Code of Regulations, Section 17200 et seq. (Minimum Standards for Solid Waste Handling and Disposal)

These regulations set forth minimum standards for solid waste handling and disposal, and guidelines to ensure conformance of solid waste facilities with county solid waste management plans; as well as enforcement and administrative provisions.

Title 22, California Code of Regulations, Section 66262.10 et seq. (Generator Standards)

These sections establish requirements for generators of hazardous waste. Under these sections, waste generators must determine if their wastes are hazardous according to either specified characteristics or lists of wastes. As in the federal program, hazardous waste generators must obtain EPA identification numbers, prepare manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Additionally, hazardous waste must only be handled by registered hazardous waste transporters. Generator requirements for record keeping, reporting, packaging, and labeling are also established.

Title 22, California Code of Regulations, Section 67100.1 et seq. (Hazardous Waste Source Reduction and Management Review)

These sections establish reporting requirements for generators of certain hazardous and extremely hazardous wastes in excess of specified limits. The required reports must indicate the generator's waste management plans and performance over the reporting period.

LOCAL

The Riverside County Department of Environmental Health administers the California laws and regulations for both solid and hazardous wastes in the proposed project area. This agency has been designated as the local hazardous waste Certified Unified Program Agency (CUPA) by the State of California.

WORKER SAFETY AND FIRE PROTECTION

FEDERAL

In 1970, Congress enacted Public Law 91-596, the Federal Occupational Safety and Health Act of 1970. This Act mandates safety requirements in the workplace and is found in Title 29 of the United States Code, section 651 (29 U.S.C. §§ 651 through 678). Implementing regulations are codified at Title 29 of the Code of Federal Regulations, under General Industry Standards, sections 1910.1 - 1910.1500 and clearly 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. Most of the general industry safety and health standards now in force under the Act represent a compilation of existing federal standards and national consensus standards. These include standards from the voluntary membership organizations of the American National Standards Institute (ANSI) and the National Fire Protection Association (NFPA) which publishes the National Fire Codes.

The purpose of the Occupational Safety and Health Act is to "assure 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). The Federal Department of Labor promulgates and enforces safety and health standards that are applicable to all businesses affecting interstate commerce. The Department of Labor established the Occupational Safety and Health Administration (OSHA) in 1971 to discharge the responsibilities assigned by the OSH Act.

Applicable Federal requirements include:

- 29 U.S. Code § 651 et seq. (Occupational Safety and Health Act of 1970);
- 29 CFR §1910.1 - 1910.1500 (Occupational Safety and Health Administration Safety and Health Regulations);
- 29 CFR §1952.170 – 1952.175 (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 – 1910.1500).

STATE

California passed the Occupational Safety and Health Act of 1973 ("Cal/OSHA") as published in the California Labor Code section 6300. Regulations promulgated as a result of the Act are codified at Title 8 of the California Code of Regulations, beginning with sections 337 to 560 and continuing with section1514 through 8568. The California Labor Code requires that the Cal/OSHA Standards Board adopt standards at least as effective as the federal standards (Labor Code § 142.3(a)) and thus all Cal/OSHA health and safety standards meet or exceed the Federal requirements. Hence, California obtained federal approval of its State health and safety regulations, in lieu of the federal requirements. The

Federal Secretary of Labor, however, continually oversees California's program and will enforce any federal standard for which the State has not adopted a Cal/OSHA counterpart.

The State of California Department of Industrial Relations is charged with responsibility for administering Cal/OSHA. Employers are responsible for informing their employees about workplace hazards, potential exposure and the work environment (Labor Code § 6408). Cal/OSHA's principal tool in ensuring that workers and the public are informed is the Hazard Communication standard first adopted in 1981 (8 CCR §5194). This regulation was promulgated in response to California's Hazardous Substances Information and Training Act of 1980. It was later revised to mirror the Federal Hazard Communication Standard (29 CFR §1910.1200) which established on the federal level an employee's "right to know" about chemical hazards in the workplace, and added the provision of applicability to public sector employers. A major component of this regulation is the required provision of Material Safety Data Sheets (MSDSs) to workers. MSDSs provide information on the identity, toxicity, and precautions to take when using or handling hazardous materials in the workplace.

Finally, 8 CCR section 3203 requires that employers establish and maintain a written Injury and Illness Prevention Program to identify workplace hazards and communicate them to its employees through a formal employee-training program.

Applicable State requirements include:

- 8 CCR section 339 - List of hazardous chemicals relating to the Hazardous Substance Information and Training Act;
- 8 CCR section 337, et seq. Cal/OSHA regulations;
- 24 CCR section 3, et seq. - incorporates the current edition of the Uniform Building Code;
- Health and Safety Code section 25500, et seq. - Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at the facility;
- Health and Safety Code sections 25500 to 25541 - Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at the facility.

LOCAL

The California Building Standards Code published at Title 24 of the California Code of Regulations, section 3 et seq., consists of eleven parts containing the building design and construction requirements relating to fire and life safety and structural safety. The Building Standards Code includes the electrical, mechanical, energy, and fire codes applicable to the project. Local planning/building and safety departments enforce the California Building Code.

National Fire Protection Association (NFPA) standards are incorporated into the California Fire Code. The fire code contains general provisions for fire safety, including: 1) required road and building access; 2) water supplies; 3) installation of fire protection and life safety systems; 4) fire-resistive construction; 5) general fire safety precautions; 6) storage of combustible materials; 7) exits and emergency escapes; and 8) fire alarm systems. The California Fire Code is published at Part 9 of Title 24 of the California Code of Regulations.

Similarly, the Uniform Fire Code (UFC) Standards, a companion publication to the California Fire Code, contain standards of the American Society for Testing and Materials and the NFPA. It is the United State's premier model fire code. It is updated annually as a supplement and published every third year by the International Fire Code Institute to include all approved code changes in a new edition. Riverside County adopted the 1997 Uniform Fire Code in 1999. The Riverside County Fire Department administers the UFC.

- Applicable local (or locally enforced) requirements include:
- 1998 Edition of California Fire Code and all applicable NFPA standards (24 CCR Part 9);
- California Building Code Title 24, California Code of Regulations (24 CCR § 3, et seq.); and
- Uniform Fire Code, 1997.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION OF THE INLAND EMPIRE ENERGY CENTER BY INLAND EMPIRE ENERGY CENTER, LLC	**DOCKET NO. 01-AFC-17**

EXHIBIT LIST

EXHIBIT 1: Application for Certification for the Inland Empire Energy Center (AFC) (Vol. I), Technical Appendices A – O, dated August 8, 2001 (filed on August 17, 2001). Paper and magnetic media. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 2: Applicant's Testimony for the Inland Empire Energy Center, Docket Number 01-AFC-17 dated July 9, 2003. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 3: Data Adequacy Responses, dated November 30, 2001 with supplemental attestation letter from Rick Thomas to Steve Larson dated December 4, 2001. Paper and magnetic media. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 4: Data Responses to Staff Data Request #1 items 1 to 161, dated February 13, 2002. Paper and magnetic media. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 5: Notice of Proposed Construction or Alteration submitted to Federal Aviation Administration (FAA) on February 25, 2002. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 6: FAA Determination of No Hazard to Air Navigation issued on June 26, 2002. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 7: Data Responses Volume II, Submittal Tab #2 to Staff Data Request #1 items 1 to 161, dated February 21, 2002. Paper and magnetic media. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 8: Data Responses Volume II, Submittal Tab #3 to Staff Data Request #1 items 1 to 161, dated March 14, 2002. Paper and magnetic media. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 9: E-mail dated 4/19/02 transmitting corrected versions of visible plume modeling files. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 10: Data Responses Volume II, Submittal Tab #4 to Staff Data Request # 2 items 162 to 188, dated May 7, 2002. Paper and magnetic media. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 11: Data Responses Volume II, Submittal Tab #5 to Staff Data Request # 2 items 162 to 188, dated May 20, 2002. Paper and magnetic media. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 12: Comments on the Preliminary Staff Assessment filed August 30, 2003. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 13: Letter dated May 4, 2001 from Sierra Research (Tom Andrews) to SCAQMD (Thomas Chico) re: Modeling Protocol for Inland Empire Energy Center. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 14: Letter dated June 18, 2001 from Sierra Research (Tom Andrews) to SCAQMD (Yi-Hui Huang) and CEC (Joe Loyer) re: Modeling Protocol for Inland Empire Energy Center. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 15: Letter dated August 13, 2001 from Sierra Research (Tom Andrews) to SCAQMD (Linda Mills) re: cumulative air quality impacts analysis. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 16: Letter dated August 17, 2001 from Sierra Research (Tom Andrews) to CEC (Jim Bartridge) re: air quality modeling files. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 17: Letter dated September 14, 2001 from Calpine (Michael Hatfield) to SCAQMD (John Yee) re: application for determination of compliance and permit to construct. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 18: Letter dated November 12, 2001 from Sierra Research (Gary Rubenstein) to EPA (Regional FOI Officer) re: request for information. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 19: Letter dated November 16, 2001 from Calpine (Michael Hatfield) to SCAQMD (Pang Mueller) providing requested information. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 20: Letter dated November 20, 2001 from Sierra Research (Tom Andrews) to SCAQMD (John Yee) transmitting additional copies of air quality permit application package and modeling CDs. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 21: Letter dated December 13, 2001 from Calpine (Rick Thomas) to the CEC (James Bartridge) transmitting non-confidential emission reduction credit information. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 22: Letter dated December 13, 2001 from Calpine (Downey Brand) to Riverside County (Freitas) transmitting a response to the Romoland School District on comments regarding IEEC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 23: Letter dated January 7, 2002 from Calpine (Greg Lamberg) to the Romoland School District (Roland Skumawitz) transmitting Calpine's response to Romoland's December 5, 2001 letter. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 24: Letter dated February 15, 2002 from Calpine (Michael Hatfield) to SCAQMD (John Yee) transmitting responses to requests for additional information. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 25: Letter dated February 21, 2002 from Sierra Research (Tom Andrews) to SCAQMD (John Yee) responding to request for information and enclosing revised modeling CD. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 26: Letter dated February 27, 2002 from Sierra Research (Tom Andrews) to SCAQMD (John Yee) transmitting ten additional copies of modeling CDs. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 27: Letter dated April 2, 2002 from Sierra Research (Tom Andrews) to SCAQMD (Li Chen) re: storage tank at gas compressor station. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 28: Letter dated June 4, 2002 from Sierra Research (Tom Andrews) to Adams Broadwell (Mark Wolfe) transmitting nitrogen deposition modeling CDs. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 29: Letter dated August 22, 2002 from Calpine (Michael Hatfield) to SCAQMD (John Yee) re: comments on PDOC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 30: Letter dated October 2, 2002 from Sierra Research (Tom Andrews) to SCAQMD (John Yee) regarding Class I area impacts. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 31: Letter dated October 4, 2002 from Calpine (Michael Hatfield) to SCAQMD (John Yee) responding to EPA comments on PDOC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 32: Letter dated October 8, 2002 from Sierra Research (Tom Andrews) to Downey Brand (Jane Luckhardt) transmitting modeling CDs for revised construction impacts analysis. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 33: Letter dated October 23, 2002 from Calpine (Barbara McBride) to SCAQMD (John Yee) transmitting application for road paving emission reduction credits. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 34: Letter dated December 18, 2002 from Sierra Research (Gary Rubenstein) to SCAQMD (John Yee) re: Supplemental Class I Area Impacts Analysis. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 35: Letter dated January 15, 2003 from Sierra Research (Gary Rubenstein) to SCAQMD (John Yee) re: NOx permit limit excursion language. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 36: Letter dated January 16, 2003 from Calpine (Michael Hatfield) to EPA (Curt Taipale) re: biological resource mitigation measures. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 37: Letter dated April 1, 2003 from Calpine (Michael Hatfield) to SCAQMD (John Yee) transmitting comments on FDOC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 38: Letter dated August 17, 2001 from SCAQMD (Linda Mills) to Sierra Research (Tom Andrews) re: cumulative air quality impacts analysis. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 39: Letter dated November 8, 2001 from SCAQMD (Pang Mueller) to Calpine (Michael Hatfield) re: additional information required. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 40: Letter dated November 19, 2001 from EPA (FOI Officer) to Sierra Research (Gary Rubenstein) re: request for information. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 41: Letter dated November 21, 2001 from SCAQMD (Pang Mueller) to Calpine (Michael Hatfield) re: determination of completeness. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 42: Letter dated November 29, 2001 from SCAQMD (Pang Mueller) to US Forest Service (Mike McCorison) transmitting IEEC application package for review. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 43: Letter dated December 10, 2001 from EPA (Gerardo Rios) to Sierra Research (Gary Rubenstein) responding to information request. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 44: Letter dated January 24, 2002 from SCAQMD (John Yee) to Calpine (Michael Hatfield) requesting additional information. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 45: Letter dated June 10, 2002 from NJ Resources (Jenifer Morris) to the CEC (James Bartridge) transmitting a letter from The American Lung Association of the Inland Counties. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 46: Letter dated June 21, 2002 from SCAQMD (Pang Mueller) to CEC (Jim Bartridge) transmitting Preliminary Determination of Compliance. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 47: Letter dated January 24, 2003 from USFS (Kent Connaughton) to SCAQMD (Pang Mueller) confirming acceptability of Class I area impacts for IEEC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 48: Letter dated February 28, 2003 from SCAQMD (Pang Mueller) to CEC (Robert Therkelsen) transmitting the Final Determination of Compliance for IEEC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 49: Letter dated February 28, 2003 from SCAQMD (Pang Mueller) to EPA (Gerardo Rios) responding to EPA comments on the PDOC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 50: Letter dated February 28, 2003 from SCAQMD (Pang Mueller) to Southern California Association of Governments (Jeffrey Smith) responding to SCAG comments on the PDOC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 51: Letter dated March 20, 2003 from SCAQMD (Pang Mueller) to Calpine (Michael Hatfield) regarding PSD delegation. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 52: Letter dated April 25, 2003 from SCAQMD (Pang Mueller) to CEC (Jim Bartridge) transmitting addendum to FDOC. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 53: E-mail dated June 12, 2003 from NPS (Don Codding) to Sierra Research (Gary Rubenstein) confirming that USFS letter of 1/24/03 represents opinions of NPS as well as USFS. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 54: Letter dated June 30, 2003 from Cantor-Fitzgerald (Robin Langdon) to Calpine (Michael Hatfield) re: RECLAIM credit market in SCAQMD. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 55: Data Response Volume II, Workshop #1 Responses to Oral Data Requests dated April 15, 2002 from the February 26, 2002 Data Response/Issues Resolution Workshop. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 56: U.S. Fish and Wildlife Service, Letter to Richard G. Thompson of the U.S. Army Corps of Engineers and Geraldo C. Rios of the U.S. Environmental protection Agency dated February 26, 2003. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 57: U.S. Fish and Wildlife Service letter to Jim Bartridge of the California Energy Commission dated November 8, 2002. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 58: IEEC Biological Issues Summary, September 2002. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 59: MOU dated December 20, 2001 between EMWD and IEEC LLC for the Provision of Recycled Water to the Inland Empire Energy Center. Sponsored by Applicant; Admitted into evidence on July 30, 2003.

EXHIBIT 60: Report of Conversation for Meeting between Applicant & CEC Staff on April 4, 2002 at the CEC's Office for Clarification of Water Data Requests – Set 1. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 61: Data Response Volume II, Data Response Supplement #1, Submittal #6 dated May 17, 2002. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 62: Letter dated March 5, 2002 from County of Riverside to Mr. James Bartridge – Project Manger, CEC providing comments for consistency of the proposed IEEC with local land use LORS. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 63: Data Response letter dated September 13, 2002 to staff Data Request #178. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 64: Menifee North Specific Plan (SP No. 260) County of Riverside (1994). Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 65: Visual Analysis and Revised Landscaping Plan – Response to PSA Workshop, Filed December 20, 2002. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 66: Applicant's First Set of Data Requests, Filed June 18, 2003. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 67: Final Staff Assessment, dated May 23, 2003. Sponsored by Staff. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 68: Supplemental Testimony and Addendum to Final Staff Assessment dated July 18, 2003. Sponsored by Staff; admitted into evidence on July 30, 2003.

EXHIBIT 69: Replacement pages to Addendum to Final Determination of Compliance dated May 22, 2003. Sponsored by Staff; admitted into evidence on July 30, 2003.

EXHIBIT 70: IEEC Project Errata to the Supplemental Testimony and Addendum to the Staff Assessment dates July 28, 2003. Sponsored by Staff; admitted into evidence on July 30, 2003.

EXHIBIT 71: Errata to Chapter 5.3 of Exhibit 2. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 72: PM Levels in Perris, 1991-2002 Table 1 and Figures 1, 2, and 3. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 73: $PM_{2.5}$ Levels in Riverside-Rubidoux, 1988-2002 Table w and Figures 4, 5, and 6. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 74: $PM_{2.5}$ Levels in Riverside-Magniolia, 1988-2002 Table 3 and Figures 7, 8, and 9. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 75: IEEC Construction—24-Hour Total PM10—1981 Riverside Met Isopleth. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 76: IEEC Project—Construction Ambient Impact Analysis. Sponsored by Applicant; admitted into evidence on July 30, 2003.

EXHIBIT 77: FAA Determination of No Hazard to Air Navigation for Power Lines dated June 15, 2003. Sponsored by Applicant; admitted into evidence on July 30, 2003.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT COMMISSION OF THE STATE OF CALIFORNIA

APPLICATION FOR CERTIFICATION FOR THE INLAND EMPIRE ENERGY CENTER	**DOCKET NO. 01-AFC-17** **PROOF OF SERVICE**

I, ----------, declare that on ----------, I deposited copies of the attached ----------and Notice of Availability in the United States mail in Sacramento, CA with first class postage thereon fully prepaid and addressed to the following:

DOCKET UNIT

Send the original signed document plus 12 copies to the following address:

CALIFORNIA ENERGY COMMISSION
Attn: Docket No. 01-AFC-17
DOCKET UNIT, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

In addition to the documents sent to the Commission Docket Unit, also send individual copies of all documents to:

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I declare that under penalty of perjury that the foregoing is true and correct.

_____
(Signature)

* * * *

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