CALIFORNIA
ENERGY
COMMISSION

# TRACY PEAKER PROJECT

Application For Certification (01-AFC-16)
San Joaquin County

PRESIDING MEMBER'S PROPOSED DECISION

MAY 2002
P800-02-004

Gray Davis, Governor

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**CALIFORNIA ENERGY COMMISSION**

1516 9th Street
Sacramento, CA 95814
*www.energy ca.gov/sitingcases/tracy*

ROBERT PERNELL
*Commissioner* and *Presiding Member*

ROBERT A. LAURIE
*Commissioner and Associate Member*

CHERYL TOMPKIN
*Hearing Officer*

CALIFORNIA ENERGY COMMISSION
1516 NINTH STREET
SACRAMENTO, CA 95814-5512

The Committee hereby submits its Presiding Member's Proposed Decision for the Tracy Peaker Project (Docket Number 01-AFC-16). We have prepared this document pursuant to the requirements set forth in the Commission's Regulations. (20 Cal. Code of Regs., §§ 1749-1752. 5).

We recommend the Application for Certification for the Tracy Peaker Project be approved, subject to the Conditions of Certification set forth herein, and that the Commission grant the Applicant a license to construct and operate the project.

Dated on May 31, 2002, at Sacramento, California.

/s/
ROBERT PERNELL, Commissioner
Presiding Member
GWF TRACY AFC Committee

/s/
ROBERT A. LAURIE, Commissioner
Associate Member
GWF TRACY AFC Committee

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

| | |
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| **APPLICATION FOR CERTIFICATION OF THE GWF TRACY PEAKER PROJECT IN SAN JOAQUIN COUNTY**<br><br>**(GWF ENERGY LLC)** | **DOCKET NO. 01-AFC-16**<br><br>**APPLICATION COMPLETE (DATA ADEQUATE) OCTOBER 17, 2001** |

***NOTICE OF AVAILABILITY OF PRESIDING MEMBER'S PROPOSED DECISION AND NOTICE OF COMMITTEE CONFERENCE***

## I. NOTICE OF AVAILABILITY

The Committee assigned to the above-mention proceeding released the Presiding Member's Proposed Decision (PMPD) for the GWF Tracy Peaker Project on ***May 31, 2002***. Copies have been sent to the Proof of Service List, and are also available from the Commission's Publications Unit, 1516 9th Street, MS-13, Sacramento, CA 95814. You may telephone the Publications Unit at (916) 654-5200 and ask for Publication No. P800-02-004. The PMPD may also be viewed on the Commission Internet Web Site at: **<www.energy.ca.gov/sitingcases/tracy>**

Members of the public and interested governmental agencies may submit written comments on the PMPD. The public comment period ends on ***July 1, 2002***. All comments must be received ***no later than 3:00 p.m. on July 1, 2002***, by the Commission's Docket Unit, 1516 9th Street, Sacramento, CA 95814. Identify all comments with "Docket No. 01-AFC-16."

## II. NOTICE OF CONFERENCE

The Committee will also hold a public Conference to receive comments on the PMPD as follows:

**Tuesday, July 2, 2002**
**Beginning at 5:30 p.m.**
**Holiday Inn Express Hotel & Suites**
**3751 Tracy Boulevard**
**Tracy, California**
*(Wheelchair Accessible)*

Applicant, Staff, and all other formal parties wishing to participate at this Conference must file written comments on the PMPD. These comments shall be served and filed ***no later than 3:00 p.m., July 1, 2002***. Members of the general public wishing to participate at this Conference are encouraged, but not required, to submit their written comments by the same date.

For information concerning public participation, contact the Commission's Public Adviser, Roberta Mendonca, at (916) 654-4489 or, toll free, at (800) 822-6228; or e-mail: [**pao@energy.state.ca.us**]

Media inquiries should be directed to Claudia Chandler at (916) 654-4989. If you require special accommodations to participate at the Conference, contact Lou Quiroz at (916) 654-5146, at least five days prior to the Conference.

Technical questions should be directed to the Commission's Project Manager, Cheri Davis, at (916) 657-4394, or email: [**cdavis@energy.state.ca.us**]

Questions of a legal or procedural nature should be addressed to Cheryl Tompkin, the Hearing Officer, at (916) 654-3893, or email:
[**ctompkin@energy.state.ca.us**]

Dated on May 31, 2002, at Sacramento California.

| | |
|---|---|
| ROBERT PERNELL, Commissioner<br>Presiding Member<br>GWF TRACY AFC Committee | ROBERT A. LAURIE, Commissioner<br>Associate Member<br>GWF TRACY AFC Committee |

*Mailed to Lists: 7120, 7121, 7122*

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# INTRODUCTION

This Decision is based exclusively upon the record established during these certification proceedings and summarized herein. It contains our rationale for concluding that the Tracy Peaker Project complies with all applicable laws, ordinances, regulations and standards, and may therefore be licensed. We have independently evaluated the evidence presented, and in this Decision we explain the rationale for our conclusion and provide references to the record. We also specify the measures required to ensure that the Tracy Peaker Project is, to the greatest extent possible, designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

## A. SUMMARY OF THE PROPOSED DECISION

GWF Energy LLC (Applicant) filed an Application for Certification (AFC) with the Energy Commission seeking approval to construct and operate the Tracy Peaker Project, a nominal 169 megawatt simple cycle natural gas fired power plant. The Tracy Peaker Project, as proposed, will be located on a 10.3 acre, fenced site within a 40-acre parcel in an unincorporated portion of San Joaquin County. The site is immediately southwest of the City of Tracy and approximately 20 miles southwest of the City of Stockton. It is bounded by the Delta-Mendota Canal to the southwest, agricultural property to the south and east, and the Union Pacific Railroad to the north. Immediately north of the Railroad are the Owens-Brockway glass container manufacturing plant and the Nutting-Rice warehouse. The Tracy Biomass power plant is approximately 0.6 miles to the northwest.

The Tracy Peaker Project will consist of the power plant, two onsite 115-kilovolt switchyards, an onsite natural gas supply interconnection, an onsite electric transmission line, an approximately 1,470-foot water supply pipeline, and improvements to an existing dirt access road approximately one mile in length.

The Tracy Peaker Project will use two natural gas fired General Electric Model PG7121 (EA) combustion turbine generators (CTG) operating in simple-cycle mode. The combustion turbines will use a dry-low nitrogen oxide (NOx) combustion system to minimize air emissions. An evaporative cooling system will be installed on the inlet air for use at higher ambient temperatures. Pacific Gas & Electric Company will supply natural gas via an outside interconnection with an existing transmission pipeline. Industrial process water and nonpotable domestic water will be supplied from the Delta-Mendota Canal pursuant to an existing contract with the Plain View Water District. Drinking water for the facility will be provided by a local bottled water vendor.

Project construction will commence immediately following certification with an estimated construction payroll of $107 million. Project construction will create a peak workforce of about 178 workers over an eight-month period; the project will employ two permanent operational personnel. Applicant has signed a 10-year contract with the California Department of Water Resources that provides for the purchase of up to 4,000 hours per year of plant generating capacity. Applicant wishes to retain the flexibility to sell electricity produced by this plant beyond the contracted hours to the California Independent System Operator. The maximum generating capacity of the Tracy Peaker Project is approximately 8,000 hours per year. The project was originally scheduled to be operational in a simple-cycle mode beginning the summer of 2002. This schedule is now unlikely, but Applicant has not provided a revised schedule.

## B. SITE CERTIFICATION PROCESS

The Tracy Peaker Project and its related facilities fall within Commission licensing jurisdiction. (Pub. Resources Code, §§ 25500 et seq.). During its licensing proceedings, the Commission acts as the lead state agency under the California Environmental Quality Act [Pub. Resources Code, §§ 25519 (c), 21000

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

The Commission's process and associated documents are functionally equivalent to the traditional Environmental Impact Report process. (Pub. Resources Code, § 21080.5.) It is designed to allow review of a project to be completed within a limited period of time; a license issued by the Commission is in lieu of other state and local permits.

Significantly, 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 the same legal rights and duties as the project developers. Public participation is encouraged at every stage, and our process requires substantially more opportunities for public participation and review than does the traditional CEQA process. Moreover, as explained in subsequent portions of this document, we have fully and fairly examined the positions formally espoused by various Internvenors and members of the public. On balance, we believe that the participation of the public has resulted in a painstaking scrutiny of the Applicant's proposal, as well as the development of Conditions of Certification which extensively reduce and safeguard against potential project impacts.

The certification process begins when an Applicant submits the Application for Certification (AFC). Commission staff reviews this submission, and recommends to the Commission whether or not the accompanying information is adequate to permit formal review to commence. Once the Commission determines that an AFC contains sufficient analytic information, it appoints a Committee of two Commissioners to conduct the licensing process.

The initial portion of the certification process is weighted heavily toward ensuring public awareness of the proposed project and obtaining such further technical information as is necessary. 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. During this phase, the Commission 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 proposed project in the Preliminary Staff Assessment (PSA), which is made available for public comment. Staff's responses to public comment on the PSA and its complete analysis are published in the Final Staff Assessment (FSA).

The Committee also conducts various public events, including at least one Prehearing Conference, to assess the adequacy of available information, identify issues, and determine the positions of the various participants. Information gleaned from these events forms the basis for a Hearing Order organizing and scheduling formal Evidentiary Hearings. At these hearings, all formal parties are able to present testimony, under oath or affirmation, which is subject to cross-examination by other parties and to questioning by the Committee. The public may also comment on a proposed project at these hearings. Evidence adduced during these hearings provides the basis for the Committee’s analysis.

This analysis, in turn, appears in a Committee recommendation to the full Commission in the form of a Presiding Member's Proposed Decision (PMPD), which is available for a public review period of at least 30 days. This document provides the Committee's recommendation to the full Commission concerning a project's ultimate acceptability. The PMPD also determines a project's conformity with applicable laws, ordinances, regulations, and standards. Depending upon the extent of revisions necessary in reaction to comments received on the PMPD, the Committee may elect to publish a revised version. If

so, this latter document 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, the members of the Committee, and ultimately the Commission, serve as fact-finders and decision-makers. Other parties, including the Applicant, Staff, and formal Intervenors function independently and with legal status equal to one another. An "ex-parte" rule prohibits parties from communicating on substantive matters with the decision-makers, their staffs, or assigned hearing officer unless these communications occur on the public record.

## C. PROCEDURAL HISTORY

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

On August 16, 2001, GWF Energy LLC (Applicant) filed an Application for Certification (AFC) with the Energy Commission to seeking approval to construct and operate the Tracy Peaker Project. Applicant sought review under the four-month expedited review process established by the Governor's Executive Orders D-26-01 and D-28-01 and Public Resources Code section 25552, as amended by Senate Bill 28 (Chap. 12, Stats. 2001). The Commission found the AFC data adequate on October 17, 2001, and appointed a Committee to conduct proceedings on the AFC.

On October 17, 2001, as a necessary prerequisite to accepting Applicant’s AFC as data adequate, the Energy Commission also adopted Resolution No. 01-1017-02, which suspended two requirements imposed by Public Resources

Code section 25552. In the absence of the waivers contained in Resolution No. 01-1017-02 the Tracy Peaker Project would not have qualified for the expedited four-month review process. On November 9, 2001, based on the waivers established in the Resolution, the Committee granted Applicant's request for an expedited decision pursuant to Public Resources Code section 25552, subject to timely provision of necessary information and compliance with Air District requirements.

On November 14, 2001, the full Commission considered a Petition for Reconsideration of Resolution 01-1017-02. On December 5, 2001, the Commission unanimously voted to rescind its Resolution No. 01-1017-02. On December 11, 2001, the Committee ordered that the Tracy Peaker Project AFC be processed under the provisions of Public Resources Code section 25540.6, which governs the 12-month review process.

The Committee scheduled its initial public event, an "Informational Hearing and Site Visit," by notice dated November 2, 2001. This notice was sent to all known or expected to be interested in the proposed project, including the owners of land adjacent to, or in the vicinity of, the Tracy Peaker Project. Notice of the Hearing was also published in the Tracy Press.

The Committee conducted the Informational Hearing in Tracy on November 28, 2001. At this event, the Committee and other participants discussed the proposed Tracy Peaker Project, described the Commission's review process, and explained opportunities for public participation. The parties also toured the site where the Tracy Peaker Project will be situated.

Over the course of the next several months, Staff held various public events to assess the status of the project, including submission of necessary information by Applicant. Staff held the first of its public workshops on November 20, 2001, in Tracy. A second workshop was held on January 9, 2002, in Tracy. The

workshops covered technical areas such as Air Quality, Soil and Water Resources, Biological and Cultural Resources, Socioeconomics, Traffic and Transportation, Visual Resources, Hazardous Materials and Waste Management.

In addition to these workshops, coordination occurred with the local, state, and federal agencies that have an interest in the Tracy Peaker Project, including the City of Tracy, San Joaquin County, the California Independent System Operator, San Joaquin Valley Air Quality Management District, the U.S. Fish and Wildlife Service, the Department of Fish and Game, the Native American Heritage Commission, and the San Joaquin Council of Governments, as well as numerous Intervenors and the interested residents of the community.

On December 11, 2001, the Committee issued an order that contained a schedule for processing the AFC. Pursuant to the Committee schedule Commission Staff released its Preliminary Staff Assessment on December 28, 2001.

On January 7, 2002, the Committee issued a Notice of Prehearing Conference and Revised Committee Schedule. The Prehearing Conference was held on January 24, 2002. The purpose of the conference was to assess the status of the case, determine whether substantive issues required adjudication, and discuss the process and procedures to be utilized during the Evidentiary Hearings.

Staff Assessment Supplement I was filed on January 22, 2002. Staff Assessment Supplement II was filed on February 1, 2002. The Committee conducted Evidentiary Hearings in Tracy on March 6, 7, 8, 13, 14, and 28, 2002. At these publicly noticed hearings all parties were afforded the opportunity to present evidence, cross examine witnesses, and to rebut the testimony of other parties, thereby creating an evidentiary record which forms the basis for the Commission Decision. The hearings before the Committee also allowed all

parties to argue their positions on disputed matters and provided a forum for the Committee to receive comments from the public and other governmental agencies.

During the review process, the Committee issued orders and made rulings on various motions and issues. On March 21, 2002, the Committee issued a ruling denying Intervenor Sarvey's Demand to Correct or Cure Violations of the Bagley-Keene Open Meeting Act. Sarvey alleged that the Committee's Hearing Order and Filing Schedule violated the notice requirements of the Open Meeting Act. The Committee ruled no violations of the Act had occurred.

Intervenors in the Tracy proceeding included the California Unions for Reliable Energy (CURE), Robert Sarvey, Irene Sundberg, Charles Tuso, James M. Hooper, Larry Cheng, Dennis C. Noble, Esq., Ena Aguirre, and the City of Tracy.

After reviewing the evidentiary record, the Committee published its Presiding Member's Proposed Decision (PMPD) on May 31, 2002. The 30-day comment period on the PMPD will end on July 1, 2002.

The Committee will conduct a public conference on, July 2, 2002, in Tracy to receive comments on the PMPD. After considering these comments, the Committee will then recommend Commission consideration of the PMPD.

# I. PROJECT PURPOSE AND DESCRIPTION

GWF Energy LLC (Applicant) proposes to construct and operate the Tracy Peaker Project, a nominally rated 169 megawatt simple cycle natural gas fired power plant. The plant will be located in an unincorporated portion of San Joaquin County, immediately southwest of the City of Tracy and approximately 20 miles southwest of the City of Stockton. (Ex. 2, § 2.1.)

One of the primary objectives of the Tracy Peaker Project is the rapid introduction of new, more efficient, and environmentally superior power generation to meet California's growing power demand. Over the next several years, California is expected to experience a shortfall in available electric generating sources during peak demand periods. The project is being developed to help relieve this power shortage. (Ex. 2, § 1.1.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The 10.3-acre project site is contained within a larger 40-acre parcel, which is zoned AG-40 (i.e., agriculture with minimum 40-acre lot size). The site itself is fallow agricultural land bounded by the Delta-Mendota Canal to the southwest, agricultural land to the south and east, and Union Pacific Railroad tracks to the north. Immediately north of the Railroad tracks are the Owens-Brockway glass container manufacturing plant and the Nutting-Rice warehouse. The Tracy Biomass power plant is approximately 0.6 miles to the northwest. (Ex. 2 § 2.2.1; Ex. 17, pp. 3.4-6, 3.4-7.) See **Figure 1-1**, showing the regional location of the site, and **Figure 1-2**, showing the immediate location of the site, which are replicated below from Exhibit 2.

[Insert **Figure 1-1** from Exhibit 2 (Supplement to the AFC) here]

[Insert **Figure 1-2** from Exhibit 2 (Supplement to the AFC) here]

The project is a natural gas-fired simple cycle power plant. It will include two onsite 115-kilovolt switchyards, an onsite natural gas supply interconnection, an onsite electric transmission line, an approximately 1,470-foot water supply pipeline, and improvements to an existing dirt access road approximately one mile in length. (Ex. 17, p. 1-2.)

The project will use two natural gas fired General Electric Model PG7121 (EA) combustion turbine generators (CTG), each with a base load nominal output of 84.4 megawatts at annual average conditions. (Ex. 17, p. 1-2) In order to achieve Best Available Control Technology (BACT), the combustion turbines will be equipped with a dry low NOx (DLN) combustor system to control the NOx concentration exiting each CTG. The exhaust gas temperature will be reduced with ambient air to allow for additional post-combustion NOx control with a selective catalytic reduction (SCR) system. The SCR system will use aqueous ammonia to reduce NOx emissions to less than 5 parts per million volume dry (ppmvd) at 15 percent oxygen ($O_2$). CO emissions from the CTG will be reduced to less than 6 ppmvd at 15 percent $O_2$ with an oxidation catalyst. In addition, Applicant will provide offsets, obtained from stationary sources in the San Joaquin Valley Air Basin, for all proposed criteria pollutant emissions from the project, including CO. (Ex. §, 1.5.2.) The project is located within the jurisdiction of the San Joaquin Valley Air Pollution Control District.

The project will connect to the Pacific Gas and Electric (PG&E) electrical grid by looping the existing PG&E Tesla-Kasson 115 kV transmission line, which is directly adjacent to the project site, through the new 115 kilovolt (kV) Schulte switching station, which is one of two switchyards that will be built on the plant site. An overhead transmission line will connect the Schulte Switching Station with a second new onsite switchyard, the 115 kV Tracy Peaker Project transmission switchyard. (Ex. 4, p. 6.4-4; Ex. 2, § 6.1.2.) The project will also have an on-site electrical interconnection. (Ex. 2, § 2.1.)

Pacific Gas & Electric Company will supply natural gas via a new outside interconnection with an existing transmission pipeline that crosses beneath the proposed site. (Ex. 17, p. 1-2)

The project will use approximately 30-acre feet of water per year based on 8,000 hours of operation. Industrial process water and nonpotable domestic water will be supplied from the Delta-Mendota Canal pursuant to an existing contract with the Plain View Water District. A new 1,470-foot-long, 12-inch-diameter pipeline will be constructed to transport water to the project fence line. The project will include a reverse osmosis system for treating the Delta-Mendota Canal water. The simple cycle design of the project does not include a cooling tower, thus the project will have minimal demand for cooling and process water. Drinking water for the facility will be provided by a local bottled water vendor. (Ex. 4, p. 3-2)

The project will be a near-zero wastewater discharge facility. Evaporative cooler blowdown will be routed to a wastewater recovery package plant consisting of a softening/filtration/reverse osmosis system. Non-recoverable wastewater from this system will be stored in a 10,000-gallon tank for off-site recycle or disposal. Recovered water will be routed back for use as evaporative cooler makeup. Service water and CTG wash water will be collected and then transported from the plant by a licensed hauler for off-site recycling or disposal. Uncontaminated rainwater will be routed to an onsite evaporation-percolation basin. Domestic wastes from employee restrooms will be discharged to an on-site septic system. (Ex. 17, p. 1-2; Ex. 4, pp. 5.8-8, 5.8-10.)

The project includes improvements to approximately one mile of an existing dirt access road for primary plant access. (Ex. 17, p. 3.2-7.) The road, which runs south from W. Schulte road to the project site, will be widened by approximately 5-feet and paved with asphalt. A change in alignment will occur where the road crosses the train tracks in order to avoid a parcel of Bureau of Reclamation land northwest of the project site. (Ex. 17, p. 3.2-7.) During construction,

approximately 4,200 feet of existing unimproved farm road will be used for site access, and portions of the 40-acre parcel where the project site is located will be used for temporary lay down and construction parking areas. (Ex. 17, p. 3.2-7.)

The project site lies within the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP) area. (Ex. 17, p. 3.2-11.) Applicant's Biological Resource Mitigation Implementation and Monitoring Plan (BRMIMP) includes biology mitigation measures required by the Commission as well as the local, state, and federal permitting agencies. (*Ibid*.) The BRMIMP incorporates Incidental Take Minimization Measures identified in the SJMSCP for the San Joaquin kit fox and Western burrowing owl and provides a compensation program to mitigate potential impacts. (Ex. 17, pp. 3.2-11, 3.2-12.)

Project construction will commence immediately following certification and will last approximately eight months. During the construction phase, the project will employ an average of 95 workers with an estimated peak workforce of 178 workers. During operation, the project will employ 2 permanent employees, who will be transferred from other facilities owned by Applicant and will commute to the project site on a daily basis as needed. (Ex. 1, §§ 8.8.3.3 and 8.8.3.4; Ex. 4, pp. 5.7-11 through 5.7-12.) The project is designed for an operating life of 30 years. (Ex. 2, § 1.5.9.) Applicant's estimated construction payroll is $107 million. (Ex. 1, § 8.8.3.5.)

The Tracy Peaker Project will operate as a merchant plant and will sell electricity in the deregulated energy market. Applicant has signed a 10-year contract with the California Department of Water Resources that provides for the purchase of up to 4,000 hours per year of plant generating capacity. Applicant expects that electricity produced by this plant beyond the contracted hours will be sold to the California Independent System Operator. The maximum generating capacity of the Tracy Peaker Project is approximately 8,000 hours per year. The project was originally scheduled to be operational in a simple-cycle mode beginning the

summer of 2002. This schedule is now unlikely, but Applicant has not provided a revised schedule. (Ex. 17, p. 1-2.)

## FINDINGS AND CONCLUSIONS

1. Applicant proposes to construct and operate the Tracy Peaker Project, a nominal 169 MW simple cycle natural gas power plant consisting of two natural gas fired General Electric Model PG7121 (EA) combustion turbine generators (CTG), two onsite 115-kilovolt switchyards, emission control equipment and ancillary facilities.

2. The 10.3-acre project site is contained within a larger 40-acre agricultural parcel located in an unincorporated portion of San Joaquin County, immediately southwest of the City of Tracy.

3. Linear facilities include an onsite natural gas supply interconnection, an onsite electric transmission line, an approximately 1,470-foot water supply pipeline, and improvements to an existing dirt access road approximately one mile in length.

We conclude that the Tracy Peaker Project is described in sufficient detail to allow review in compliance with the provisions of both the Warren-Alquist Act and the California Environmental Quality Act (CEQA).

# II. COMPLIANCE AND CLOSURE

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

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence of record contains a full explanation of the purposes and intent of the Plan. The Plan is the administrative mechanism used to ensure that the Tracy Peaker Project is constructed and operated according to the Conditions of Certification. It essentially describes the respective duties and expectations of the project owner and the Staff Compliance Project Manager (CPM) in implementing the design, construction and operation criteria set forth in this Decision. Compliance with the Conditions of Certification contained in this Decision is verified through mechanisms such as periodic reports and site visits. The Plan also contains requirements governing the planned closure, as well as the unexpected temporary or 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 of 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 the disputes and making post-certification changes;

- Establish requirements for periodic compliance reports and other administrative procedures necessary to verify compliance status for all Conditions of Certification; and

- Establish requirements for closure of the facility. The closure requirements cover the eventualities of planned closure (in which the facility would be closed in an anticipated and orderly manner), temporary closure (short-term sudden or unexpected closure), and unexpected permanent 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 specific conditions contain the measures required to mitigate to insignificant levels potentially adverse project impacts associated with construction, operation and closure. Each condition also includes a "verification" provision that describes the method of assuring that the Condition has been satisfied.

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 Tracy Peaker Project will be designed, constructed, operated, and closed in conformity with applicable law.

2. Requirements contained in the Compliance Plan and in the specific Conditions of Certification are intended to be 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. We also adopt the following Compliance Plan as part of this Decision.

# COMPLIANCE MONITORING PLAN INCLUDING GENERAL CONDITIONS AND CLOSURE PLAN

## COMPLIANCE PROJECT MANAGER (CPM) RESPONSIBILITIES

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

- Ensuring that the design, construction, operation, and closure of the project facilities is in compliance with the terms and conditions of the Commission Decision;
- Resolving complaints;
- Processing post-certification changes to the conditions of certification, project description, and ownership or operational control;
- Documenting and tracking compliance filings; and,
- 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, it should be understood that the approval would involve all appropriate staff and management.

### *PUBLIC ACCESS*

The public may contact the Commission about power plant construction or operation-related questions, complaints, or concerns at the following toll free telephone number: 1-800-858-0784.

### *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. Technical staff from both the Energy Commission and the project owner will meet to review the status of all pre-construction or pre-operation Energy Commission's conditions of certification. They will determine whether all requirements 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 or inadvertence and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the certification process may need to be publicly noticed unless they are confined to administrative issues and process.

### *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 taken.

## 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.

### *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 records maintained on site, for the purpose of conducting audits, surveys, inspections, or general site visits. Although the CPM will normally schedule site visits on dates and times agreeable to the project owner, the CPM reserves the right to make unannounced visits at any time.

### *COMPLIANCE RECORD*

The project owner shall maintain project files on-site or at an alternative site approved by the CPM, for the life of the project. The files shall contain copies of all “as-built” drawings, all documents submitted as verification for conditions, and

all other project-related documents for the life of the project, unless a lesser period is specified by the conditions of certification.

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

### *COMPLIANCE VERIFICATIONS*

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

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

- 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;
- Appropriate letters from delegate agencies verifying compliance;
- Energy Commission staff audit of project records; and/or
- Energy Commission staff inspection of mitigation and/or other evidence of mitigation.

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

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

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

All submittals shall be addressed as follows:

**Compliance Project Manager**
**Tracy Peaker Project (01-AFC-16)**
**California Energy Commission**
**1516 Ninth Street (MS-2000)**
**Sacramento, CA 95814**

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

## *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 Compliance Reports.

### COMPLIANCE MATRIX

The project owner shall submit a compliance matrix 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 <u>all</u> compliance conditions in a spreadsheet format. The compliance matrix must identify:

- The technical area,
- The condition number,
- A brief description of the verification action or submittal required by the condition,
- The date the submittal is required (e.g., 60 days prior to construction, after final inspection, etc.),
- The expected or actual submittal date,
- The date a submittal or action was approved by the Chief Building Official (CBO), CPM, or delegate agency, if applicable, and
- The compliance status for each condition (e.g., “not started”, “in progress” or “completed date”).
- The project’s pre-construction and construction milestones, including dates and status.

Completed or satisfied conditions do not need to be included in the compliance matrix after they have been identified as completed/satisfied in at least one Monthly or Annual Compliance Report.

### PRE-CONSTRUCTION MATRIX

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. It will be in the same format as the compliance matrix referenced above.

#### START OF CONSTRUCTION

Construction shall not commence until this matrix is submitted, all pre-construction conditions have been complied with, and the CPM has issued a letter to the project owner authorizing the start of construction. Project owners frequently anticipate starting project construction as soon as the project is certified. In some cases it may be necessary for the project owner to file submittals prior to certification if the required lead-time extends beyond the day anticipated for the start of construction. It is important that the project owner understand that pre-construction activities are performed at their own risk. Failure to allow appropriate lead-time may cause delays in start of construction.

### MONTHLY COMPLIANCE REPORT

The first Monthly Compliance Report is due the month following the Energy Commission business meeting date that the project was approved, unless the 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 is found at the end of this section.

During pre-construction and construction of the project, the project owner or authorized agent shall submit Monthly Compliance Reports 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:

- A summary of the current project construction and milestones status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
- 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;

- An initial, and thereafter 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);
- A list of conditions which have been satisfied during the reporting period, and a description or reference to the actions which satisfied the condition;
- A list of any submittal deadlines that were missed accompanied by an explanation and an estimate of when the information will be provided;
- A cumulative listing of any approved changes to conditions of certification;
- A listing of any filings with, or permits issued by, other governmental agencies during the month;
- 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 conditions of certification;
- A listing of the month's additions to the on-site compliance file; and
- Any requests to dispose of items that are required to be maintained in the project owner's compliance file.
- A listing of complaints, notices of violation, official warnings, and citations received during the month; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

### ANNUAL COMPLIANCE REPORT

After the air district has issued a Permit to Operate, 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:

- 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);
- A summary of the current project operating status and an explanation of any significant changes to facility operations during the year;
- 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;

- A cumulative listing of all post-certification changes approved by the Energy Commission or cleared by the CPM;
- An explanation for any submittal deadlines that were missed, accompanied by an estimate of when the information will be provided;
- A listing of filings made to, or permits issued by, other governmental agencies during the year;
- A projection of project compliance activities scheduled during the next year;
- A listing of the year's additions to the on-site compliance file, and
- An evaluation of the on-site contingency plan for unexpected facility closure, including any suggestions necessary for bringing the plan up to date [see General Conditions for Facility Closure addressed later in this section].
- A listing of complaints, notices of violation, official warnings, and citations received during the year; a description of the resolution of any complaints which have been resolved, and the status of any unresolved complaints.

### *CONFIDENTIAL INFORMATION*

Any information, which 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, which is determined to be confidential, shall be kept confidential as provided for in Title 20, California Code of Regulations, section 2501 et. seq.

### *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 eight hundred and fifty dollars ($850). The payment instrument shall be provided to the Commission's Project Manager at the time of project certification and shall be made payable to the California Department of Fish and Game. The Commission's Project Manager 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.

### *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. The telephone number shall be posted at the project site and easily visible to passersby during construction and operation.

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, which follows.

**COMPLAINT RESOLUTION REPORT - TRACY PEAKER PROJECT**
CEC Docket Number 01-AFC-16(C)

**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.)

## 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 which provide the flexibility to deal with the specific situation and project setting which will exist at the time of closure. 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, unexpected temporary closure and unexpected permanent closure.

## PLANNED CLOSURE

This 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.

## UNEXPECTED TEMPORARY CLOSURE

This unplanned 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.

## UNEXPECTED PERMANENT CLOSURE

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

## GENERAL CONDITIONS FOR FACILITY CLOSURE

## PLANNED CLOSURE

In order that a planned facility closure does not create adverse impacts, a closure process, that will provide 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:

- 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.

- 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;

- Identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and

- 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.

Also, 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 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 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 or the environment, but shall not commence any other closure activities, until Commission approval of the facility closure plan is obtained.

## UNEXPECTED TEMPORARY CLOSURE

In order to ensure that public health and safety and the environment are protected in the event of an unexpected 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, 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.

In addition, consistent with requirements under unexpected 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 unexpected temporary closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., 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 circumstances and expected duration of the closure.

If it is determined that a temporary closure is likely to be permanent, or for a duration of more than twelve months, a closure plan consistent with that for a planned closure shall be developed and submitted to the CPM within 90 days of the determination. The CPM and the project owner may agree to a period of time other than 90 days.

## UNEXPECTED PERMANENT CLOSURE

The on-site contingency plan required for unexpected temporary closure shall also cover unexpected permanent facility closure. All of the requirements specified for unexpected temporary closure shall also apply to unexpected 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 unexpected permanent closure, the project owner shall notify the CPM, as well as other responsible agencies, by telephone, fax, e-mail, etc., 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 that for a planned closure shall be developed and submitted to the CPM within 90 days of the permanent closure (or other period of time agreed to by the CPM).

## DELEGATE AGENCIES

To the extent permitted by law, the Energy Commission may delegate authority for compliance verification and enforcement to various state and local agencies that have expertise in subject areas where specific requirements have been established as a condition of certification. If a delegate agency does not participate in this program, the Energy Commission staff will establish an alternative method of verification and enforcement. Energy Commission staff reserves the right to independently verify compliance.

In performing construction and operation monitoring of the project, the Energy Commission staff acts as, and has the authority of, the Chief Building Official (CBO). The Commission staff retains this authority when delegating to a local CBO. Delegation of authority for compliance verification includes the authority for enforcing codes, the responsibility for code interpretation where required, and the authority to use discretion as necessary, in implementing the various codes and standards.

Whenever an agency's responsibility for a particular area is transferred by law to another entity, all references to the original agency shall be interpreted to apply to the successor entity.

## 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 Commission Decision.

The specific action and amount of any fines the 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, inadvertence, unforeseeable events, and other factors the Commission may consider.

Moreover, to ensure compliance with the terms and conditions of certification and applicable laws, ordinances, regulations, and standards, 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 procedures, 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 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 the Energy Commission to conduct an informal investigation of alleged noncompliance with the Energy Commission's terms and conditions of certification. All requests for informal investigations shall be made to the designated CPM.

Upon receipt of a request for informal investigation, the CPM shall promptly notify the project owner of the allegation by telephone and letter. All known and

relevant information of the alleged noncompliance shall be provided to the project owner and to the Energy Commission staff. The CPM will evaluate the request and the information to determine if further investigation is necessary. If the CPM finds that further investigation is necessary, the project owner will be asked to promptly investigate the matter and within 7 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 7 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:

- Immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
- Secure the attendance of appropriate Energy Commission staff and staff of any other agency with expertise in the subject area of concern as necessary;
- 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,
- 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 Commission shall have the authority to consider all relevant facts involved and make any appropriate orders consistent with its jurisdiction. (Title 20, California Code of Regulations, sections 1232-1236.)

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

The project owner must petition the Energy Commission, pursuant to Title 20, California Code of Regulations, section 1769, to 1) delete or change a condition of certification; 2) modify the project design or operational requirements; and 3) transfer ownership or operational control of the facility.

A petition is required for **amendments** and for **insignificant project changes**. For verification changes, a letter from the project owner is sufficient. In all cases, the petition or letter requesting a change should be submitted to the Commission's Docket in accordance with Title 20, California Code of Regulations, section 1209.

The criteria that determine which type of change process applies are explained below.

### AMENDMENT

A proposed change will be processed as an amendment if it involves a change to the requirement or protocol (and in some cases the verification) portion of a condition of certification, an ownership or operator change, or a potential significant environmental impact.

### INSIGNIFICANT PROJECT CHANGE

The proposed change will be processed as an insignificant project change if it does <u>not</u> require changing the language in a condition of certification, have a potential for significant environmental impact, and cause the project to violate laws, ordinances, regulations or standards.

### VERIFICATION CHANGE

The proposed change will be processed as a verification change if it involves only the language in the verification portion of the Conditions of Certification. This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment.

This procedure can only be used to change verification requirements that are of an administrative nature, usually the timing of a required action. In the unlikely event that verification language contains technical requirements, the proposed change must be processed as an amendment.

# KEY EVENT LIST

PROJECT _____ DATE ENTERED

DOCKET # _____ PROJECT MANAGER

| ***EVENT DESCRIPTION*** | ***DATE ASSIGNED*** |
|---|---|
| Date of Certification | |
| Start of Construction | |
| Completion of Construction | |
| Start of Operation (1st Turbine Roll) | |
| Start of Rainy Season | |
| End of Rainy Season | |
| Start T/L Construction | |
| Complete T/L Construction | |
| Start Fuel Supply Line Construction | |
| Complete Fuel Supply Line Construction | |
| Start Rough Grading | |
| Complete Rough Grading | |
| Start of Water Supply Line Construction | |
| Completion of Water Supply Line Construction | |
| Start Implementation of Erosion Control Measures | |
| Complete Implementation of Erosion Control Measures | |

## CONSTRUCTION MILESTONES

The following is the procedure for establishing and enforcing milestones, which include milestone dates for pre-construction and construction phases of the project. Milestones, and method of verification must be established and agreed upon by the project owner and the CPM no later than 30 days after project approval, the date of docketing. If this deadline is not met, the CPM will establish the milestones.

I. ESTABLISH PRE-CONSTRUCTION MILESTONES TO ENABLE START OF CONSTRUCTION WITHIN ONE YEAR OF CERTIFICATION

- Obtain site control.
- Obtain financing.
- Mobilize site.
- Begin rough grading for permanent structures (start of construction).

II. ESTABLISH CONSTRUCTION MILESTONES FROM DATE OF START OF CONSTRUCTION

- Begin pouring major foundation concrete.
- Begin installation of major equipment.
- Complete installation of major equipment.
- Begin gas pipeline construction.
- Complete gas pipeline interconnection.
- Begin T-line construction.
- Complete T-line interconnection.
- 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.

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

- The change in any milestone does not change the established commercial operation date milestone.

- The milestone is changed due to circumstances beyond the project owner's control.

- The milestone will be missed, but the project owner demonstrates a good-faith effort to meet the project milestone.

- The milestone is missed due to unforeseen natural disasters or acts of God which prevent timely completion of the milestones.

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.

- Conclude that good cause exists and direct that revised milestones be established; or

- Issue a reprimand, impose a fine, or take other appropriate remedial action and direct that revised milestones be established; or

- Recommend, after consulting with the Energy Facility Siting and Environmental Committee, that the 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 Energy Facility Siting and Environmental Committee, and to the full Commission.

# III. ENGINEERING ASSESSMENT

The broad engineering assessment conducted for the Tracy Peaker Project consists of separate analyses that examine facility design, as well as the efficiency and reliability of the proposed power plant. These analyses include the onsite power generating equipment and the project-related linear facilities (transmission line, natural gas supply pipeline, and water supply pipeline).

## 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. The purpose of the review is to determine whether the power plant and ancillary facilities have been described in sufficient detail to provide reasonable assurance that the project can be designed and constructed in accordance with applicable laws, ordinances, regulations and standards (LORS), as well as in a manner that protects environmental quality and assures public health and safety. 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.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The Application for Certification (AFC) describes the preliminary facility design for the project. [1] Staff evaluated the preliminary project design with respect to site preparation and development, and major project structures, systems and equipment. (Ex. 4, pp. 6-2 through 6-3; Ex. 2, §§ 2.3, 2.5 et seq.)

[1] Ex. 1, §§ 3.4, 3.13 and Appendices A-1 through A-3, 5 and Appendices J1–J5 and 7; Ex. 2, § 3.4; Exs. 9, 11 and 12.)

Staff's site preparation and development analysis included an evaluation of the proposed design criteria for grading, flood protection, erosion control, site drainage, and site access, as well as an assessment of the criteria for designing and constructing linear facilities, including the natural gas pipeline and transmission line. (Ex. 4, p. 6.2.) The project will employ site preparation and development criteria consistent with accepted industry standards. (*Ibid.*) Based on its analysis, Staff concluded the project, including linear facilities, will likely comply with all applicable site preparation LORS. Condition **CIVIL-1** ensures that site preparation and development activities will be conducted in compliance with applicable LORS.

As part of its analysis of major structures, systems and equipment,[2] Staff examined civil, structural, mechanical and electrical design criteria. (Ex. 4, 6.2.) Condition **GEN-2** includes a list of the major structures and equipment for the project. Staff concluded that the design criteria demonstrated the likelihood of compliance with applicable engineering LORS.

The project will be designed and constructed in conformance with the latest edition of the California Building Code (currently the 1998 edition) and other applicable codes and standards in effect at the time construction actually begins. (*Id.* at p. 6.3.) Condition **GEN-1** incorporates this requirement.

The 1998 CBC requires specific "lateral force" procedures for different types of structures to determine their seismic design. (Ex. 4, p. 6.3.) The power plant site and ancillary facility corridors are located in Seismic Zone 4, a zone that historically has been seismically active. (Ex. 2, § 2.3.1, Ex. 1, § 8.15.2.2.) To ensure that project structures are analyzed using the appropriate lateral force procedure, Condition **STRUC-1** requires the project owner to submit its proposed

[2] Major structures, systems, and equipment include costly or difficult to replace structures and associated components or equipment that are necessary for power production or that are used for storage, containment or handling of hazardous or toxic materials.

lateral force procedures to the Chief Building Official (CBO)[3] for review and approval prior to the start of construction. (*Id*. at p. 6-15.)

A Project Quality Control Program will also be used to maximize confidence that the systems and components will be designed, fabricated, stored, transported, installed and tested in accordance with the technical codes and standards appropriate for a power plant. Compliance with design requirements will be verified through an appropriate program of inspections and audits. The Quality Assurance/Quality Control (QA/QC) program will ensure that the project is actually designed, produced, fabricated and installed as contemplated. (Ex. 2, § 2.4.5; Ex. 4, p. 6-3.)

The removal of a facility from service (decommissioning) as a result of the project reaching the end of its useful life may range from "mothballing" to removal of all equipment and appurtenant facilities and restoration of the site. (Ex. 4, p. 6-4.) The **General Conditions** of the Compliance Plan (discussed earlier in this Decision) ensure these measures will be included in the Facility Closure Plan.

After reviewing Applicant's design proposals for the project's structural features, site preparation, major structures and equipment, mechanical systems electrical designs and ancillary facilities, Staff concluded that, with the Conditions of Certification, the project design will meet all LORS and will impose no significant impacts on the environment. (Ex. 4, p. 6-5.)

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[3] The Energy Commission acts as the CBO for all facilities it certifies and is responsible for enforcing the CBC. It also has the power to render interpretations of the CBC and to adopt and enforce rules and supplemental regulations to clarify application of CBC provisions. The Commission's design review and construction inspection process has been developed to conform to CBC requirements and ensure that all facility design Conditions of Certification are met. The Conditions of Certification specify the roles, qualifications, and responsibilities of engineering personnel who will oversee project design and construction. (See Conditions of Certification GEN-1 through GEN-8.) These Conditions require the approval of the CBO after appropriate inspections by qualified engineers. No element of construction may proceed without approval of the CBO. The Commission may appoint experts to carry out the design review and construction inspections, and to act as a delegate CBO. (Ex. 4, pp. 6-3 through 6-4.)

## FINDINGS AND CONCLUSIONS

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

1. The Tracy Peaker Project 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 set forth in the appropriate portions of Appendix A of this Decision.

3. The Conditions of Certification set forth below are necessary 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 provisions of the Compliance Plan contained in this Decision set forth requirements to be followed in the event of facility closure.

We therefore conclude that, with the implementation of the Conditions of Certification listed below, the Tracy Peaker Project 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 1998 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 handled in Conditions of Certification in the **Transmission System Engineering** section of this document.

> Protocol: In the event that the initial engineering designs are submitted to the CBO when a successor to the 1998 CBC is in effect, the 1998 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 California Energy Commission Compliance Project Manager (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 [1998 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 60 days (or a lesser number of days mutually agreed to by the project owner and the CBO) 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 Generator Foundation and Connections | 2 |
| SCR Unit Structure, Foundation and Connections | 2 |
| Transformer Foundation and Connections | 2 |
| Exhaust Plenum Structure, Foundation and Connections | 2 |
| CT Inlet Air Filter Compartment Structure, Foundation and Connections | 2 |
| Accessory Compartment Structure, Foundation and Connections | 2 |
| Exhaust Stack Structure, Foundation and Connections | 2 |
| Evaporative Inlet Air Cooler Foundation and Connections | 2 |
| Fuel Gas Scrubber Foundation and Connections | 2 |
| Fuel Gas Scrubber Drain Tanks Foundation and Connections | 2 |
| Switchgear Compartment Foundation and Connections | 2 |
| Lube Oil Demister Foundation and Connections | 2 |
| Fuel Gas Heater Foundation and Connections | 2 |
| Gas Valve Module Structure, Foundation and Connections | 2 |
| Exhaust Flame Blower Structure, Foundation and Connections | 2 |
| $CO_2$ Fire Protection Skid Foundation and Connections | 2 |
| Underground Water Wash Drains Tank Foundation and Connections | 2 |
| Water wash Skid Foundation and Connections | 2 |
| PEECC Structure, Foundation and Connections | 2 |
| CEMS Shelter Structure, Foundation and Connections | 2 |
| Air Processing Unit Foundation and Connections | 2 |
| Cooling Module Structure, Foundation and Connections | 2 |
| Ammonia Vaporizer Skid Foundation and Connections | 2 |
| Oil/Water Separator Structure, Foundation and Connections | 1 |
| Service/Fire Water Tank Foundation and Connections | 1 |
| Auxiliary Pump/RO Treatment Building Structure, Foundation and Connections | 1 |
| Ammonia Storage Tank Foundation and Connections | 1 |
| Ammonia Forwarding Pumps Foundation and Connections | 2 |
| Switchgear Building Structure, Foundation and Connections | 1 |
| SCR Tempering Air Fans Foundation and Connections | 2 |
| Waste Water Storage Tank Foundation and Connections | 1 |
| Administration/Maintenance Building Structure, Foundation and Connections | 1 |
| Emergency Diesel Generator Foundation and Connections | 1 |

| Equipment/System | Quantity (Plant) |
|---|---|
| Gas Metering Station Structure, Foundation and Connections | 1 |
| Ammonia Unloading Pad Spill Containment Tank Foundation and Connections | 1 |
| Service Water Pumps Foundation and Connections | 1 |
| Fire Protection Pumps Foundation and Connections | 1 |
| Control Building Structure, Foundation and Connections | 1 |
| Cranking Motor Starter Transformer/Switchgear Foundation and Connections | 2 |
| Unit 1 Auxiliary Transformer Foundation and Connections | 1 |
| Unit 2 Auxiliary Transformer Foundation and Connections | 1 |
| Drainage Systems (including sanitary drain and waste) | 1 Lot |
| High Pressure and Large Diameter Piping | 1 Lot |
| HVAC and Refrigeration Systems | 1 Lot |
| Temperature Control and Ventilation Systems (including water and sewer connections) | 1 Lot |
| Building Energy Conservation Systems | 1 Lot |
| Substation/Switchyard, Buses and Towers | 2 Lots |
| Electrical Duct Banks | 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 1998 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 the value of the facilities reviewed; 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 Regs., tit. 24, § 4-209, Designation of Responsibilities)]. All transmission facilities (lines, switchyards, switching stations and substations) are handled 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.

Protocol: 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 a lesser number of days mutually agreed to by the project owner and the CBO) prior to the start of rough grading, the project owner shall submit to the CBO for review and approval, the name, qualifications 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 name, qualifications and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer within five days of the approval.

**GEN-5** Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: A) 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 handled 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.

> Protocol: 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 [1998 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.
>
> Protocol 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.

Protocol 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 1998 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 1998 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 1998 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 [1998 CBC, Section 104.2.4, Stop orders].

Protocol 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.

Protocol 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.

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

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

**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 1998 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 handled in Conditions of Certification in the **Transmission System Engineering** section of this document.

Protocol: 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 [1998 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 and the applicable provisions of the applicable edition of the CBC.

5. 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 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 [1998 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 [1998 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 [1998 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** Prior to the start of site grading, 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 1998 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report; and Section 3309.6, Engineering Geology Report].

**Verification:** At least 15 days prior to the start of site grading (or a lesser number of days mutually agreed to by the project owner and the CBO), 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 [1998 CBC, Section 104.2.4, Stop orders].

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

**CIVIL-3** The project owner shall perform inspections in accordance with the 1998 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.

> Protocol: 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 [1998 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 facilities, the project owner shall obtain the CBO's approval of the final "as-graded" grading plans and final "as-built" plans for the erosion and sedimentation control facilities [1998 CBC, Section 109, Certificate of Occupancy].

**Verification:** Within 30 days of the completion of the erosion and sediment control mitigation and drainage facilities, the project owner shall submit to the CBO 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 this report 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.

Protocol: 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 [1998 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 [1998 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 [1998 CBC, Section 106.3.4, Architect or Engineer of Record].

**Verification:** At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) 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 non-conforming 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 1998 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 [1998 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 1998 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 1998 CBC shall, at a minimum, be designed to comply with Occupancy Category 2 of the 1998 CBC.

**Verification:** At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) 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** Prior to the start of any increment of major piping or plumbing construction, 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 [1998 CBC, Section 106.3.2, Submittal Documents; Section 108.3, Inspection Requests; Section 108.4, Approval Required; 1998 California Plumbing Code, Section 103.5.4, Inspection Request; Section 301.1.1, Approval].

> Protocol: 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:

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

The CBO may deputize inspectors to carry out the functions of the code enforcement agency [1998 CBC, Section 104.2.2, Deputies].

**Verification:** At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) 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 [1998 CBC, Section 108.3, Inspection Requests].

Protocol: 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 a lesser number of days mutually agreed to by the project owner and the CBO) 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** Prior to the start of construction of any heating, ventilating, air conditioning (HVAC) or refrigeration system, the project owner shall submit to the CBO for design review and approval the design plans, specifications, calculations and quality control procedures for that system. Packaged HVAC systems, where used, shall be identified with the appropriate manufacturer's data sheets.

Protocol: 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 [1998 CBC, Section 108.7, Other Inspections; Section 106.3.4, Architect or Engineer of Record].

**Verification:** At least 30 days (or a lesser number of days mutually agreed to by the project owner and the CBO) 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 for such construction [CBC 1998, 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 [1998 CBC, Section 108.4, Approval Required; and Section 108.3, Inspection Requests]. All transmission facilities (lines, switchyards, switching stations and substations) are handled in Conditions of Certification in the **Transmission System Engineering** section of this document.

Protocol 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.

Protocol 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.

Protocol 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 a lesser number of days mutually agreed to by the project owner and the CBO) 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

The section considers whether the project's consumption of energy, in the form of non-renewable fuels such as natural gas and oil, will result in significant adverse environmental impacts on energy resources. It reviews the efficiency of project design and identifies measures that prevent wasteful, inefficient, or unnecessary energy consumption.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

A project causes significant environmental impacts if it uses large amounts of energy in a wasteful, inefficient, or unnecessary manner. (Cal. Code of Regs., tit. 14, § 15126.4(a)(1).) In accordance with CEQA Guidelines, Staff assessed whether the projects use of natural gas would result in 1) adverse effects on local and regional energy supplies and resources; 2) a requirement for additional energy supply capacity; 3) noncompliance with existing energy standards; or 4) the wasteful, inefficient, and unnecessary consumption of fuel or energy.[4] (Ex. 4, p. 6.2-2.)

#### 1. Potential Adverse Effects on Energy Supplies and Resources

The project will burn natural gas at a maximum rate up to 21.4 billion Btu per day lower heating value (LHV). (Ex. 4, p. 6.2-2; Ex. 2, §1.5.5.) According to Staff, this is a substantial rate of energy consumption that may impact energy supplies or resources. (Ex. 4, p. 6.2-2.)

Gas for the project will be drawn from the existing Pacific Gas & Electric Company (PG&E) gas transmission pipeline 401, which passes within the boundary of the project site. The PG&E gas supply infrastructure is extensive

[4] See, CEQA Guidelines, 14 California Code of Regulations, Section 15000 et seq., Appendix F.

and offers access to vast reserves of gas from California, the Rocky Mountains, Canada and the Southwest. These resources represent far more gas availability than required for the project. Therefore, the project will not cause a significant increase in demand for natural gas in California. (*Ibid*.)

2. Need for Additional Energy Supplies or Capacity

The gas supply system in California is vast and well established, with numerous gas pipeline companies competing to provide a means of transporting gas throughout the State. Thus, there is no likelihood that the project will require development of new energy supplies or capacity. (*Ibid*.)

3. Compliance with Energy Standards

No standards apply to the efficiency of the Tracy Peaker Project or other non-cogeneration projects. (*Ibid*.) See, Public Resources Code, section 25134.)

4. Alternatives to Wasteful or Inefficient Energy Consumption

Applicant provided information on alternative generating technologies, which was reviewed by Staff. (Ex. 1, § 5.3; Ex. 4, p. 6.2-4; see the **Alternatives** section of this Decision.) Given the project objective, location, and air pollution control requirements, Staff concluded that only natural gas-burning technologies are feasible. (*Ibid*.)

Project fuel efficiency, and therefore its rate of energy consumption, is determined by the configuration of the power producing system and by selection of equipment to generate power. (Ex. 4, p. 6.2-3.) The TPP will be configured as two simple cycle power plants in parallel. Electricity will be generated by two gas

turbine generators.[5] (Ex. 1, §§ 1.5.2, 2.1, 2.2.2, 2.2.4.) This configuration has a fast start-up time and fast ramping[6] capability, which is well suited to providing peaking power. (Ex. 4, p. 6.2-3.)

The project will employ the General Electric (GE) PG&121(EA), also known as the GE Frame 7(EA), gas turbine generator. The GE Frame 7(EA) gas turbine generator has been on the market since 1984, and does not represent the current standard in fuel efficiency. It is nominally rated at 85.4 MW and 32.8 percent efficiency LVH. (Ex. 4, p. 6.2-3.) Although alternate, more fuel efficient, machines that can meet the project's objectives are available, Staff concluded that the GE Frame 7 (EA) is an acceptable choice for the project. Staff noted that the heavy frame industrial type generator is more reliable than the alternative machines, and that reliability is crucial in a power plant. Staff also noted that the economics of the deregulated electricity and natural gas markets will prevent the project from wasting significant amounts of fuel.

Project design for the project also includes gas turbine inlet air cooling to increase power output. The Tracy Peaker Project will employ evaporative cooling. (Ex. 2, §§ 1.5.2, 2.1, 2.2.4, 2.2.7.2.) An evaporative cooler boosts power output best on dry days. Given the climate at the project site, and the relative lack of superiority of any other cooling method, Staff concluded that no significant adverse energy impacts would result from the use of evaporative cooling. (Ex. 4, p. 6.2-5.)

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[5] The turbines will be configured with dry low-Nox combustors, which will allow them to meet a 5 ppm Nox BACT level. As part of its evaluation of emissions control measures Applicant considered the alternative SCONOx technology, but rejected it because it had never been applied to frame machines or to a project the size of the Tracy Peaker Project. (3/6/02 RT, pp. 86-90.)

[6] Ramping is increasing and decreasing electrical output to meet fluctuating load requirements.

## FINDINGS AND CONCLUSIONS

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

1. The Tracy Peaker Project will not create a significant increase in demand for natural gas in California.

2. The Tracy Peaker Project will not require the development of any new fuel supplies or resources since natural gas resources exceed the fuel requirements of the project.

3. Given the project objective, location, and air pollution control requirements, only natural gas-burning technologies are feasible for this project.

4. The project will employ two GE Frame 7(EA) gas turbine generators nominally rated at 32.8 percent LVH. Although more efficient alternatives exist, the forces of the competitive markets for electricity and natural gas, combined with the relatively small size (169 MW) of the project, ensure that no significant adverse impacts on energy resources will result from use of the GE Frame 7(EA) generators.

5. No energy standards apply to the project.

The Commission therefore concludes that the Tracy Peaker Project will not cause any significant direct or indirect adverse impacts upon energy resources. The project will conform with all applicable laws, ordinances, regulations, and standards relating to fuel efficiency as identified in the pertinent portions of APPENDIX A of this Decision. 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. Nevertheless, 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 order to make this determination, the Commission evaluates whether the proposed project will degrade the reliability of the utility system to which it is connected. If the project exhibits reliability at least equal to that of other power plants on that system, it is presumed the project will not degrade system reliability.

In California's newly restructured competitive electric power industry, 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. The Cal-ISO's mechanisms to ensure adequate power plant reliability rest on the assumption that the individual power plants that compete to sell power into the system will each exhibit a level of reliability similar to that of power plants of past decades.[7] Therefore, in the absence of clear guidelines on reliability standards, the

[7] In the regulated monopoly electric industry of past decades, the utility companies assured overall system reliability, in part, by maintaining a 7 to 10 percent "reserve margin" in the form of standby power plants to quickly handle unexpected outages of generating or transmission facilities. This margin proved adequate because of the reliability of the power plants that constituted the generation system.

Commission believes that power plant owners should continue to maintain the same levels of reliability that the power industry has achieved in recent years.

## SUMMARY AND DISCUSSION OF THE EVIDENCE

A reliable power plant is one that is available when called upon to operate. According to Staff, acceptable reliability is achieved by ensuring equipment availability, plant maintainability, fuel and water availability, and adequate resistance to natural hazards. If these elements of a project are consistent with industry norms, a power plant will be found to be as reliable as other power plants. Where a project exhibits reliability at least equal to that of other power plants on that system, it is presumed the project will not degrade system reliability.

Applicant proposes to operate the Tracy Peaker Project as a nominal 169 megawatt (MW) simple cycle peaking power plant, selling peaking power through contract with the California Department of Water Resources (DWR) and on the competitive market. (Ex. 2, §§ 1.1, 1.2, 1.5.2, 1.6, 2.1 and 2.2.15.) Peaking power plant systems must typically be able to operate for only a few hours per day without shutting down for maintenance or repairs. 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.

### 1. Equipment Availability

The project will ensure equipment availability by use of quality assurance/quality control programs (QA/QC) during design, procurement, construction and operation of the plant, and by providing for adequate maintenance and repair of the equipment and systems. (Ex. 4, p. 6.3-3.)

The QA/QC program for the project is typical of the power industry. It includes inventory review, and equipment inspection and testing on a regular basis during design, procurement, construction, and operation. Equipment will be purchased from qualified suppliers that employ an approved QA program. (*Ibid.*) Staff expects implementation of this program to yield typical reliability of design and construction. Implementation of the program will be monitored by appropriate Conditions of Certification, which are included in the **Facility Design** section of this Decision.

2. Plant Maintainability

A peaking plant is typically shut down every night, on weekends, and for periods in the fall, winter and spring, thereby affording ample opportunity for maintenance and repairs. (Ex. 4, p. 6.3-3.) Applicant plans to develop a maintenance plan during construction and startup that will ensure plant maintenance consistent with industry standards. In addition, the project will be maintained by the experienced maintenance organization that currently maintains Applicant's other power plants in California. Staff therefore expects the project will be adequately maintained to ensure acceptable reliability. (*Ibid.*)

3. Fuel and Water Availability

Reasonable long-term availability of fuel and water is necessary to ensure project reliability. The project will burn natural gas supplied by the existing PG&E interstate pipeline system via a new 16-inch diameter pipeline. (Ex. 2, §§ 1.1, 1.5.2, 1.5.5, 2.1 and 2.4.3.) This system offers access to far more gas than the plant will require for operation. Both Staff and Applicant have determined that the project will have adequate natural gas supplies and pipeline capacity to meet the project's needs. (Ex. 4, p. 6.3-4.)

The project will use recycled water obtained from the Plain View Water District for evaporative inlet air cooling, fire protection and other plant uses. The water will be supplied via a new 1,470 foot long, 12 inch diameter pipeline. (Ex. 2, §§ 1.1, 1.5.2, 1.5.6, 2.1, 2.2.7.2 and 2.4.4.) There will not be a substantial consumptive use of cooling water since this is a simple cycle power plant. Bottled water will be supplied for drinking purposes. Staff has determined these sources will yield a sufficient reliable water supply. (Ex. 4, p. 6.3-4.)

4. Natural Hazards

Natural forces can threaten the reliable operation of a power plant. Flooding and seismic shaking (earthquake) present credible threats to reliable operation. (Ex. 4, p. 6.3-4; see also the **Facility Design** and **Geology and Paleontology** sections of this Decision.)

Flooding does not present a serious threat to the project since the project site is 176 feet above mean sea level and does not lie within either a 100-year or a 500-year floodplain. (Ex. 2, §§ 1.7 and 2.3.1.)

The project site is located in Seismic Zone 4, where several active earthquake faults are found. (Ex. 2, §§ 1.7, 2.3, 2.3.1.) However, neither the proposed power plant nor the related linear extensions are located on a fault. The closest known active fault is approximately 1 kilometer (0.6 miles) from the project site. (Ex. 4, p. 6.1-2.) The Tracy Peaker Project will be designed and constructed to comply with current applicable LORS for seismic design, thus representing a reliability upgrade compared with older power plants. By virtue of being built to the latest seismic design criteria, this project will likely perform at least as well, and perhaps better than, existing plants in the electric power system. Conditions of Certification contained in the **Facility Design** portion of this Decision ensure that the project will conform with seismic design LORS. In light of the historical performance of California power plants and the electrical system in seismic

events, the evidence indicates that there is no special concern with power plant functional reliability due to seismic events.

5. Availability Factors

The North American Electric Reliability Council (NERC) compiles industry statistics for power plant availability. (Ex. 4, p. 6.3-5.) NERC's statistics show an availability factor of 90.29 percent for gas turbine units of 50 plus MW. *(Ibid.)* Applicant predicts the project will have an annual availability greater than 50 percent (Ex. 2, §§ 1.6, 2.2.2, 2.1.15), which appears reasonable when compared to the NERC figure for similar plants throughout North America.

Staff expects the Tracy Peaker Project (TPP) to actually achieve greater availability than the NERC figures show for four reasons. First, since the TPP is a peaker plant, maintenance and noncritical repairs can be performed when the plant is not dispatched; thus availability will not be affected. (Ex. 4, p. 6.3-5) Second, the two gas turbine generators used by the project will be capable of operating independently, which will permit required maintenance to be performed on one generator while the other continues to operate. Third, the GE PG7121 (EA), also known as the GE Frame 7 (EA), is a heavy-duty gas turbine with a single shaft rotating on sleeve bearings. This basic design has a proven history of reliability, and would be more reliable than the aeroderivative gas turbines that could be substituted on this project. Fourth, the control systems of the GE Frame 7 (EA), which were once a frequent cause of plant outages, have been improved and updated since introduction of the turbine 17 years ago. The modern GE Frame 7 (EA) can therefore be expected to show much higher availability and reliability than the NERC statistical population, which is heavily weighted by much older power plants. *(Ibid.)*

Applicant's estimate of plant availability appears realistic in light of the above stated factors. The stated procedures for assuring design, procurement, and

construction of a reliable power plant also are consistent with industry norms; thus, the evidence of record establishes that the Tracy Peaker Project will be an adequately reliable facility. (Ex. 4, pp. 6.3-5 through 6.3-6.)

## FINDINGS AND CONCLUSIONS

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

1. The Tracy Peaker Project (TPP) will ensure equipment availability by implementing quality assurance/quality control programs and by providing adequate redundancy of auxiliary equipment to minimize unplanned off-line events.

2. The TPP's project design, incorporating two GE Frame 7(EA) gas turbine generators, provides inherent reliability.

3. Maintenance and noncritical repairs of the TPP can be performed when the plant is not dispatched so that availability will not be affected.

4. There is adequate fuel and water availability for project operations.

5. Seismic events, flooding, or other natural hazards are not likely to adversely affect the project's reliability.

6. The project's estimated 50 percent availability factor appears realistic in light of the industry norm of 90.29 for this type of power plant.

7. The TPP will be built and operated in a manner consistent with industry norms for reliable operation. Therefore, the project will not degrade the overall reliability of the electrical system.

The Commission, therefore, concludes 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 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 reviewed the engineering and planning design of the Tracy Peaker Project's (TPP) proposed transmission facilities to ensure that they will be designed, constructed, and operated in compliance with applicable law. These transmission facilities include the power plant switchyard, the transmission outlet line, and termination and downstream facilities.

The California Independent System Operator (Cal-ISO) works in conjunction with the Participating Transmission Owners, in this case Pacific Gas & Electric (PG&E), to determine appropriate mitigation for reliability and congestion impacts associated with new generation. PG&E prepared a Systems Impact/Facilities Study to assess the potential reliability and congestion impacts associated with the project.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Transmission Facilities

The Tracy Peaker Project (TPP) will generate a nominal electrical output of 169 megawatts (MW). The plant will consist of two combustion turbine generators. Each generating unit will be connected to a step-up transformer. The transformers will connect to the new onsite TPP switchyard[8]. The TPP switchyard will be connected to the new onsite Schulte switching station by approximately 400 feet of single circuit 115 kV overhead transmission line with disconnecting switches at both ends. The transmission line will utilize steel structures and a 1,431-kilo circular mills (kcmil) all aluminum conductor (AAC)

[8] The TPP switchyard will be constructed in a single bus configuration with a 115 kV dedicated circuit breaker connecting to a step-up transformer on each generating unit. (Ex. 4, 6.4-4.)

with a normal rating of 1,220 amperes. Staff expects this amperage capacity will be adequate for the full output of the power plant. (Ex. 4, p. 6.4-4; Ex. 2, § 6.1.2.)

The proposed Schulte switching station will initially be constructed by Applicant and later owned and operated by PG&E. The switching station will connect to the PG&E electrical grid by looping the existing Tesla-Kasson 115 kV transmission line, which is directly adjacent to the TPP site, through the Schulte switching station. The proposed interconnection will consist of a single 477-kcmil steel-supported aluminum conductor (SSAC) with a normal rating of 1,205 amperes. The new loop overhead line lengths will be between 120 to 200 feet. The Schulte switching station will be constructed in a ring bus configuration with three circuit breakers. (*Ibid*.)

The TPP switchyard, the overhead line interconnection of the TPP switchyard to the Schulte switching station and the Schulte switching station will be built within the fenced yard of the TPP plant. The overhead loop lines from the Schulte switching station to the existing Tesla-Kasson 115 kV line will extend from the TPP fenced yard to the existing PG&E right of way. The TPP's transmission facilities will be designed, constructed, and operated in conformance with applicable law. (Ex. 2, § 6.1.3.)

The Applicant analyzed an alternative transmission line route connecting to the Tesla-Westly 230 kV line approximately five miles away. This alternative is inferior to the proposed route because of environmental impacts, right-of-way and land acquisition issues, engineering constraints, and overall project costs. (Ex. 4, p. 6.4-10.)

2. System Reliability

The interconnection of a new generator, if not properly designed and operated, could adversely impact the reliable operation of the state's electric power system. The role of the Cal-ISO with respect to interconnection of new generation is to

ensure the reliable operation of the ISO-controlled grid. To do this, the Cal-ISO coordinates the planning of system modifications to ensure they meet the Cal-ISO's Grid Planning Criteria. These criteria incorporate the Western Systems Coordinating Council (WSCC) Reliability Criteria, the North American Electric Reliability Council (NERC) Planning Standards, and local area reliability standards (Ex. 4, p. 6.4-2.)

In the present case, PG&E conducted the required Systems Impact/Facilities Study (SI/FS). The SI/FS revealed the potential for adverse impacts (overloads) on the PG&E 115kV transmission system due to interconnection of the TPP. These overloads will require mitigation either through re-rating of transmission lines, installing line reactors and/or replacing switches, breakers or fuses.

The SI/FS indicated that under normal operating conditions, the project will aggravate one pre-project existing normal base case overload. To mitigate this impact the project will install line reactors on the lines of the affected substation.

Under single (N-1) or Cal-ISO Category B contingency conditions, the project will cause five overload violations given 2002 summer peak conditions. To mitigate these impacts the Schulte-Kasson 115 kV 715 Aluminum conductor line and the Vierra-Tracy-Kasson 115 kV 715 Aluminum conductor line will be re-rated to a 4 feet per second wind speed rating. The new emergency rating of the lines will increase from 742 amperes (Amps) to 876 Amps. Both PG&E and Staff agree that re-rating of these lines is feasible. If the re-rating of the lines is not implemented before the scheduled on-line date of the TPP, a Special Protection Scheme (SPS) will be required on a temporary basis for maintaining system reliability. To further mitigate impacts from potential overload the project will also replace a switch and install online reactors at other affected locations, and the PG&E Tesla Control Center operating procedure will be modified through the Transmission Expansion Plan Process.

The SI/FS identified 26 overloads under multiple contingency conditions (N-2) due to the addition of the TPP. Twenty-three of these emergency overloads aggravate pre-project existing system overloads; only three overloads are due to the addition of the TPP. Under existing Cal-ISO guidelines, the Cal-ISO can apply SPS as a mitigation measure to offset these impacts, since the Applicant has not selected the mitigation measures. The SPS will effectively mitigate any impacts. (Ex. 4, p. 6.4-8)

Dynamic stability studies were conducted by PG&E using a 2003 summer peak case to determine whether addition of the proposed TPP project would result in adverse impact on the stable operation of the transmission system. The results indicated there are no identified transient stability concerns related to integration of the project. (Ex. 4, p. 6.4-9)

PG&E performed a short circuit study to evaluate the impact of the TPP on the fault duties within PG&E facilities. The study indicates the TPP will aggravate the existing overstress on three 230 kV circuit breakers at the Tesla substation by about 1 percent. According to current PG&E guidelines, the applicant is not responsible for their replacement. The overstress on the Tesla substation breakers will be mitigated by PG&E as part of the Tesla-Newark #2 230 kV line relocation project.

The study also identified third party 115 kV equipment as being overstressed due to interconnection of the TPP. To mitigate this impact the Applicant will replace three existing in line fuses.

The Cal-ISO has reviewed the SI/FS and provided preliminary interconnection approval. The Cal-ISO's final interconnection approval will assure conformance with NERC, WSCC and Cal-ISO reliability criteria.

3. Cumulative Impacts

The TPP will interconnect to the 115 kV-subtransmission system. Most of the other projects in the area that are seeking Energy Commission Certification (East Altamont Energy Center, Tesla Power Project and Cosumnes Power Plant) are larger and plan to interconnect with the bulk 230-kV system in Northern California. Staff therefore does not expect this project will have any significant cumulative transmission system impacts. The SI/FS identified cumulative impacts due to the TPP, as previously discussed, will be mitigated

4. Closure

Procedures for planned, unexpected temporary, or permanent closure will be developed to facilitate effective coordination between the project owner, the Participating Transmission Owner, and Cal-ISO to ensure safety and system reliability. The California Public Utilities Commission (CPUC) has promulgated rules under General Order 95 (GO-95) that apply to project closure procedures. Condition **TSE-5a** requires compliance with CPUC rules. (Ex. 4, p. 6.4-11.) The **Compliance and Closure** section of this Decision also contains additional provisions to ensure that project closure will be consistent with applicable law.

## FINDINGS AND CONCLUSIONS

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

1. The Tracy Peaker Project will interconnect with the Cal-ISO controlled grid by looping the existing Tesla-Kasson 115 kV transmission line through the new proposed Schulte switching station, which will be constructed on the project site.
2. PG&E performed a System Impact/Facilities Study to analyze the potential reliability and congestion impacts likely to occur when the TPP interconnects to the grid.
3. Cal-ISO reviewed the System Impact/Facilities Study and has preliminarily determined that with implementation of the selected mitigation measures the TPP can reliably interconnect to the Cal-ISO Controlled Grid. The

mitigation measures selected are according to good utility practices and will be effective. Condition of Certification **TSE-5** ensures implementation of the mitigation measures.

4. To mitigate potential impacts, the rated capacity of the Schulte-Kasson and Vierra-Tarcy-Kasson 115 kV transmission lines will be re-rated to 4 feet per second wind speed or reconductored.

5. The issuance of the Cal-ISO's final interconnection approval will assure conformance with NERC, WSCC and Cal-ISO reliability criteria.

6. The Conditions of Certification below ensure that the TPP's transmission facilities (including the proposed power plant switchyard, outlet lines, and terminations) will be designed, constructed and operated in compliance with all applicable laws, ordinances, regulations, and standards relating to transmission system engineering as identified in **APPENDIX A** of this Decision.

The Commission therefore concludes that interconnection of the project as proposed is acceptable, and that it will not result in the violation of any criteria pertinent to transmission system engineering.

## CONDITIONS OF CERTIFICATION

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

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

**Table 1: Major Equipment**

| DESCRIPTION |
|---|
| Breakers |
| Powerhouse 13.8 kV |
| Switchyards 115 kV |
| Buses |
| Underground cables |
| Disconnects |
| Take off facilities |
| Overhead lines |
| Switchyard control building |
| Step-up transformer |
| Others |

**TSE-2** The project owner shall assign an electrical engineer and at least one of each of the following to the project: A) a civil engineer; B) a geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering; C) a design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; or D) a mechanical engineer. [California Business and Professions Code section 6704 et seq., and sections 6730 and 6736 require state registration to practice as a civil engineer or structural engineer in California.]

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

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

The electrical engineer shall:

1. Be responsible for the electrical design of the power plant switchyard, outlet and termination facilities; and

2. Sign and stamp electrical design drawings, plans, specifications, and calculations.

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

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

**TSE-3** The project owner shall keep the CBO informed regarding the status of engineering design and construction. If any discrepancy in design and/or construction is discovered, the project owner shall document the discrepancy and recommend the corrective action required. The discrepancy documentation shall become a controlled document and shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this condition of certification.

**Verification:** The project owner shall submit monthly construction progress reports to the CBO and CPM to be included in response to **TSE-3**. The project owner shall transmit a copy of the CBO's approval or disapproval of any corrective action taken to resolve a discrepancy 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.

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

a) receipt or delay of major electrical equipment;
b) testing or energizing of major electrical equipment; and
c) the number of electrical drawings approved, submitted for approval, and still to be submitted.

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

**TSE-5** The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The substitution of Compliance Project Manager (CPM) and CBO approved "equivalent" equipment and equivalent substation configurations is acceptable. The project owner shall submit the required number of copies of the design drawings and calculations as determined by the CBO.

a) The power plant switchyard, interconnecting switching station, interconnecting line between the plant switchyard and switching station, and outlet line interconnecting switching station with existing transmission facilities shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95, General Order 128, or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations (Title 8), Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", National Electric Code (NEC) and related industry standards.

b) Breakers and buses in the power plant switchyard, other switchyards and switching stations, and substations, 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 CPUC Rule 21 and PG&E applicable interconnection standards.

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

f) The re-rating of Tesla-Kasson and the Vierra-Tesla-Kasson 115 kV lines shall be implemented prior to Fall 2002. If the re-rating of the line is not implemented before the scheduled on-line date of the TPP, Fall 2002, a SPS will be required on a temporary basis.

g) The existing 115 kV equipment at Owens Illinois, an existing PG&E customer, which is overstressed due to the project, shall be replaced with equipment rated to meet with fault duty requirements.

h) The project owner shall provide:

i) The final Facility Cost Report including a description of facility upgrades, operational mitigation measures, and/or special protection scheme (SPS) sequencing and timing if applicable.
ii) Re-rating Study Report approved by PG&E and any additional mitigation measures required to supplement re-rating of the lines.
iii) Executed Generator Special Facilities Agreement.
iv) Verification of Cal-ISO Notice of Synchronization

**Verification:** At least 60 days prior to the start of rough grading of transmission facilities, the project owner shall submit to the CBO for approval:

a) Design drawings, specifications and calculations conforming with CPUC General Order (GO) 95, 128 or NESC, Title 8, Articles 35, 36 and 37 of the "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, underground cables, grounding systems and major switchyard equipment.

b) For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on "worst case conditions"[9] and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95, 128 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", NEC, CPUC Rule 21, applicable interconnection standards, and related industry standards.

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

d) Generator Special Facilities Agreement shall be provided concurrently to the CPM and CBO. Substitution of equipment and substation configurations shall be identified and justified by the project owner for CBO approval.

[9] Worst-case conditions for the foundations would include for instance, a dead-end or angle pole.

**TSE-6** The project owner shall inform the CPM and CBO of any impending changes, which may not conform to the requirements **TSE-5** a) through h), and have not received CPM and CBO 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 CBO and the CPM.

**Verification:** At least 60 days prior to the construction of transmission facilities, the project owner shall inform the CBO and the CPM of any impending changes which may not conform to requirements of **TSE-5** and request approval to implement such changes.

**TSE-7** The project owner shall be responsible for the inspection of the transmission facilities during and after project construction, and any subsequent CPM and CBO approved changes thereto, to ensure conformance with CPUC GO-95, GO-128, or NESC, Title 8, CCR, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", CPUC Rule 21, and applicable interconnection standards, NEC and related industry standards. In case of non-conformance, the project owner shall inform the CPM and CBO in writing, within 10 days of discovering such non-conformance and describe the corrective actions to be taken.

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

a) "As built" engineering description(s) and one-line drawings of the electrical portion of the facilities signed and sealed by the registered electrical engineer in responsible charge. A statement attesting to conformance with CPUC GO-95, GO-128, or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, "High Voltage Electric Safety Orders", CPUC Rule 21, and applicable interconnection standards, NEC, related industry standards, and these conditions shall be provided concurrently.

b) An "as built" engineering description of the mechanical, structural, and civil portion of the transmission facilities signed and sealed by the registered engineer in responsible charge or acceptable alternative verification. "As built" drawings of the mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the "Compliance Monitoring Plan".

c) A summary of inspections of the completed transmission facilities, and identification of any nonconforming work and corrective actions taken, signed and sealed by the registered engineer in responsible charge.

**TSE-8** The applicant 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 (1) 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 (1) business day prior to synchronizing the facility with the grid for testing, provide telephone notification to the ISO Outage Coordination Department, Monday through Friday, between the hours of 0700 to 1530 at (916)-351-2300.

The applicant shall provide a copy of the letter addressed to the Cal-ISO to the CPM when it is sent to the Cal-ISO one (1) week prior to initial synchronization with the grid. A report of conversation with the Cal-ISO shall be provided electronically to the CPM one (1) day before synchronizing the facility with the California transmission system for the first time.

## E. TRANSMISSION LINE SAFETY AND NUISANCE

The project's transmission line must be constructed and operated in a manner that protects environmental quality, assures public health and safety, and complies with applicable law. This analysis reviews the potential impacts of the project's transmission line on aviation safety, radio-frequency interference, audible noise, fire hazards, nuisance shocks, hazardous shocks, and electric and magnetic field exposure.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

#### 1. Description of Transmission Line

The Tracy Peaker Project (TPP) will connect to PG&E's 115-kV system by looping the existing Tesla-Kasson 115 kV transmission line through the Schulte Switching Station, which is one of two switchyards that will be built on the plant site. The proposed transmission loop through will be 120 to 200 feet in length and will run under the existing Tesla-Manteca 115 kV transmission lines. A 340-foot tie line will connect the new onsite Schulte Switching Station with a second onsite switchyard, the TPP switchyard. (Ex. 2, §§ 6.1.2.1, 6.1.2.2.) The TPP will also have an on-site electrical interconnection. (Ex. 2, § 2.1.)

#### 2. Potential Impacts

##### *a. Electric and Magnetic Field Exposure*

The possibility of health effects from exposure to electric and magnetic fields (EMF) has increased public fears about living near high-voltage lines. (Ex. 4, p. 5.10-4.) The available data evaluated by the California Public Utilities Commission (CPUC) and other regulatory agencies do not definitively establish that EMF poses a significant health risk nor prove the absence of health

hazards.[10] (*Ibid*.) In light of the present uncertainty regarding EMF exposure, the CPUC has implemented policies to ensure that transmission lines are designed to minimize EMF without impacting transmission efficiency. (Ex. 4, p. 5.10-5.) Under CPUC policy, the regulated utilities have adopted EMF-reducing design criteria to limit EMF levels for new and upgraded transmission facilities to levels no greater than those of existing transmission lines.[11] (*Ibid*.) Condition **TLSN-1** requires Applicant to comply with applicable CPUC policies to ensure proper implementation of the necessary EMF-reduction measures. (*Ibid*.)

Applicant's testimony confirmed that its proposed transmission line is designed according to applicable Transmission Line EMF Guidelines for the PG&E area. (Ex. 2, § 6.2.4.1.) Applicant calculated the relevant field strengths at selected points of maximum intensity for the switchyard tie-in line and the Tesla-Kasson line corridor.[12] (Ex. 17, pp. 3.9-1, 3.9-2; Ex. 4, p. 5.10-9.) The calculations show that project operation will not significantly increase the intensity of the electric fields currently encountered within the right-of-way. (Ex. 2, § 6.2.4.) The estimated maximum field strength values within the proposed route are similar to those of existing PG&E lines with the same voltage and current-carrying capacity, and the estimated electric and magnetic forces associated with the transmission line are significantly below levels typically used as standards in states that regulate EMF exposure. (Ex. 2, § 6.2.4; Ex. 4, p. 5.10-9.)[13] Condition **TLSN-4** requires Applicant to measure the strengths of the electric and magnetic fields along the transmission line route before and after energization.

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[10] Although several states regulate EMF levels for new transmission lines, California has not specified a maximum EMF limit. (Ex. 2, § 6.2.4.)

[11] The CPUC has determined that only no-cost or low-cost EMF-reducing measures for new or upgraded transmission facilities are presently justified in any effort to reduce EMF fields beyond existing levels. (CPUC Decision No. 93-11-013.)

[12] The route of the Tesla-Kasson 115-kV transmission line is through a sparsely populated area of San Joaquin County. The closest house to the Tesla-Kasson transmission line is approximately 350 feet away. (Ex. 2, § 6.2.4.)

[13] Applicant also proposes to locate the transmission line close to, or within, existing line rights-of-way, which is in keeping with present state policy on the routing of high-voltage lines.

Regarding potential cumulative impacts, Staff found that Applicant's calculations of EMF levels reflected the cumulative exposures from both the project's and existing area PG&E lines. (Ex. 4, p. 5.10-9.) Staff therefore concluded that any such cumulative exposures would be similar to those associated with PG&E lines of similar voltage and current-carrying capacity. (*Ibid*.)

*b. Aviation Safety*

There are no major commercial aviation centers in the project vicinity,[14] but the local Tracy Municipal Airport is within two miles of the project. (Ex. 4, p. 5.10-8.) The Federal Aviation Administration (FAA) requires notification for any construction over 200 feet above ground level or for any construction within restricted airspace in the approach to airports. Applicant's testimony indicated that the TPP overhead transmission line will not encroach into restricted airspace since the line will not cut the extended imaginary surface of the airport runway; thus no FAA Notice of Construction is required. Nor does Applicant expect the transmission line to pose a significant hazard to crop dusting aircraft in the area since the line will be located within or near existing line corridors. (Ex. 2, § 6.2.2.) Staff agrees with Applicant's assessment that the proposed line will not pose a significant hazard to area aviation. (Ex. 4, p. 5.10-8.)

*c. Interference With Radio-Frequency Communication*

Interference with radio and television reception can be caused by spark gap discharges around the line that produce noise and interference. Such interference can generally be avoided by appropriate line maintenance. (Ex. 4, p. 5.10-2; Ex. 2, § 6.2.3.) Applicant will implement a maintenance program to minimize these occurrences. (Ex. 2, § 6.2.3.) Applicant will also employ a low-corona conductor design, which should further protect against such corona

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[14] The Stockton Airport is over 20 miles northeast from the site. (Ex. 35, p. 102.)

generation. (Ex. 4, p. 5.10-8.) Federal Communication Commission (FCC) regulations require transmission line operators to resolve incidents of radio or television interference on a case-by-case basis. Condition **TLSN-3** ensures that the TPP will mitigate any interference-related complaints on a case-specific basis.

*d. Audible Noise*

Energized electric transmission lines can generate audible noise in a process called corona discharge, most often perceived as a crackling, frying or hissing sound, or a hum. Such noise is usually generated during wet weather and from lines of 345 kV or greater. During fair weather audible noise from transmission lines is usually indistinguishable from background noise. (Ex. 4, p. 5.10-3; Ex 2, § 6.2.3.) Applicant does not expect noise from its transmission line to add significantly to existing ambient noise levels in the project area. Staff agrees with Applicant's assessment. (Ex. 4, p. 5.10-8; see the **Noise** section in this Decision.)

*e. Fire Hazards*

Operation of the transmission line represents a low fire risk. Fires can result from the transmission line or sparks from overhead conductors coming into contact with combustible material. Applicant will comply with CPUC General Order (GO) 95 that requires maintaining the clearance necessary to prevent fires caused by contact with combustible material. (Ex. 4, p. 5.10-8.)

*f. Nuisance and Hazardous Shocks*

Nuisance shocks result mostly from direct contact with metal objects electrically charged by fields from an energized line. Such shocks are caused by current flows at levels generally incapable of causing significant physiological harm. (Ex.

4, pp. 5.10-3.) For modern high-voltage lines, such shocks are effectively minimized through grounding procedures specified in the National Electrical Safety Code and the joint guidelines of the American National Standards Institute (ANSI) and the Institute of Electrical and Electronics Engineers (IEEE). Condition **TLSN-2** ensures the necessary grounding.

Hazardous shocks can result from direct or indirect contact between an individual and an energized line. Such shocks can cause serious physiological harm or death. (Ex. 4, pp. 5.10-4.) Compliance with the requirements of CPUC GO-95 will serve to minimize the risk of hazardous shocks from direct or indirect human contact with energized lines. Condition **TLSN-1** ensures implementation of the necessary GO-95 related measures.

## FINDINGS AND CONCLUSIONS

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

1. The Tracy Peaker Project (TPP) will connect to PG&E's 115-kV system by looping the existing Tesla-Kasson 115 kV transmission line through the new onsite Schulte Switching Station. The transmission loop through will be 120 to 200 feet in length.

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

3. The TPP's transmission line will be designed in accordance with the electric and magnetic field reducing guidelines applicable to PG&E's transmission service area.

4. The estimated EMF exposures from the transmission line are consistent with field levels associated with similar lines in the PG&E service area, and significantly below field levels established by states with regulatory limits for such fields.

5. The Conditions of Certification reasonably ensure that the transmission line will not have significant adverse environmental impacts on public health and safety nor cause impacts in the areas of aviation safety, radio/tv communication interference, audible noise, fire hazards, nuisance or hazardous shocks, or electric and magnetic field exposure.

The Commission, therefore, concludes that with implementation of the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards relating to transmission line safety and nuisance as identified in the pertinent portions of **APPENDIX A** of this Decision.

## CONDITIONS OF CERTIFICATION

**TLSN-1** The applicant shall ensure that the proposed interconnection transmission line is designed and built according to the requirements of CPUC's GO-95, GO-52, Title 8, Section 2700 et seq. of the California Code of Regulations and PG&E's EMF reduction guidelines arising from CPUC Decision 93-11-013.

**Verification:** At least 30 days before the start of ground disturbance for TPP's transmission line or related structures and facilities, the applicant shall submit to the Commission's Compliance Project Manager (CPM) a letter affirming that the proposed line will be constructed according to the requirements GO-95, GO 52, Title 8, Section 2700 et seq. of the California Code of Regulations, and PG&E's EMF-reduction guidelines arising from CPUC Decision 93-11-013.

**TLSN-2** The applicant shall ensure that PG&E implements a plan to ensure that all metallic objects along the route of the proposed project line are grounded according to industry standards.

**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 applicant shall ensure that PG&E implements a plan for resolving any complaints of interference with radio or television signals from operation of the proposed line.

**Verification:** Any PG&E reports of line-related complaints shall be summarized along with related mitigation measures for the first five years of operation, and provided by the applicant in an annual report to the CPM.

**TLSN-4** The project owner shall ensure that PG&E engages a qualified consultant to measure the strengths of the line electric and magnetic fields from the proposed lines before and after they are energized. Measurements shall be made at points along the route for which the applicant provided maximum field strength estimates.

The project owner shall obtain the results of the pre-and post-energization measurements from PG&E and file them with the CPM within 60 days after completion of the measurements.

# IV. PUBLIC HEALTH AND SAFETY ASSESSMENT

Operation of the Tracy Peaker Project 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 six 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 ($PM_{10}$). Also included in this review are the precursor pollutants for ozone, which are nitrogen oxides (NOx) and volatile organic compounds (VOC), and the precursors for $PM_{10}$, which are NOx, VOC, and sulfates (SOx). (Ex. 1, § 8.1.1.1.)

The federal Clean Air Act[15] 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 non-attainment (worse than the NAAQS) for criteria air pollutants. (Ex. 4, p. 5-9.) There are two major components of air pollution law: New Source Review (NSR) for evaluating pollutants that violate

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

federal standards and Prevention of Significant Deterioration (PSD) to evaluate those pollutants that do not violate federal standards. Enforcement of NSR and PSD rules is typically delegated to local Air Districts that are established by federal and state law. (Ex. 4, p. 5-1.)

Both USEPA and the California Air Resources Board (CARB) have established allowable maximum ambient concentrations for the six criteria pollutants listed 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$^3$) | — |
| Carbon Monoxide (CO) | 1 Hour | 35 ppm (40 mg/m$^3$) | 20 ppm (23 mg/m$^3$) |
| | 8 Hour | 9 ppm (10 mg/m$^3$) | 9 ppm (10 mg/m$^3$) |
| Nitrogen Dioxide ($NO_2$) | Annual Average | 0.053 ppm (100 μg/m$^3$) | — |
| | 1 Hour | — | 0.25 ppm (470 μg/m$^3$) |
| Sulfur Dioxide ($SO_2$) | Annual Average | 80 μg/m$^3$ (0.03 ppm) | — |
| | 1 Hour | — | 0.25 ppm (655 μg/m$^3$) |
| | 3 Hour | 1300 μg/m$^3$ (0.5 ppm) | — |
| | 24 Hour | 365 μg/m$^3$ (0.14 ppm) | 0.04 ppm (105 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$^3$ | — |
| Fine Particulate Matter ($PM_{2.5}$)[a] | Annual Arithmetic Mean | — | 15 μg/m$^3$ |
| | 24 Hour | — | 65 μg/m$^3$ |
| Sulfates ($SO_4$) | 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 (8 hour) | — | 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. |

Note(s):
a. Recent court decisions have delayed the implementation of the $PM_{2.5}$ standards.

Source: Ex. 4, p. 5-9.

## SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is located within the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD or Air District), which is designated as non-attainment for both the state and federal ozone and $PM_{10}$ standards and attainment or unclassified for all other criteria pollutants (i.e. $NO_2$, CO and $SO_2$). Ozone is classified by federal and state standards as severe nonattainment. $PM_{10}$ is designated as nonattainment and serious nonattainment by state and federal standards, respectively. **Air Quality Table 2**, replicated below, summarizes the federal and state attainment status for San Joaquin County.

**AIR QUALITY: Table 2**
**Federal and State Attainment Status for San Joaquin County**

| Pollutant | Attainment Status [a] | |
|---|---|---|
| | Federal | State |
| Ozone – One hour | Severe Nonattainment | Severe Nonattainment |
| CO | Unclassified/Attainment [b] | Attainment |
| $NO_2$ | Unclassified/Attainment [b] | Attainment |
| $SO_2$ | Unclassified | Attainment |
| $PM_{10}$ | Serious Nonattainment | Nonattainment |
| Lead | No Designation | Attainment |

Note(s):
a. Obtained from 40 CFR 81 and SJVAPCD web site (www.valleyair.org/aqinfo/attainment.htm)
b. Unclassified/Attainment – The attainment status for the subject pollutant is classified as either attainment or unclassified.

Source: Ex. 4, p. 5-10.

The EPA and SJVUAPCD worked together with Energy Commission staff to determine whether the project's emissions would cause significant air quality impacts and to identify appropriate mitigation measures to reduce potential impacts to levels of insignificance.

### 1. SJVUAPCD's Final Determination of Compliance

On October 5, 2001, SJVUAPCD released its Final Determination of Compliance (FDOC). SJVUAPCD subsequently made minor adjustments to the hourly and daily emission limits listed in the conditions of the FDOC and reissued the FDOC on December 5, 2001. The FDOC concludes that the Tracy Peaker Project (TPP) will comply with all applicable air quality requirements, and imposes certain conditions necessary to ensure compliance.[16] (Ex. 34.) Pursuant to Commission regulations, the conditions contained in the FDOC are incorporated into this Decision. (Cal. Code of Regs., tit. 20, §§ 1744.5, 1752.3.) The Air District witness Mr. Swaney testified that the project would comply with SJVUAPCD's requirements and with state and federal regulations. (3/7/02 RT, p. 175.)

### 2. California Environmental Quality Act (CEQA) Requirements

The Commission not only reviews compliance with Air District rules but also evaluates potential air quality impacts according to CEQA requirements. The 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 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.)

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[16] 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 delegated to SJVUAPCD the authority to implement the federal PSD, nonattainment NSR, and Title V programs. SJVUAPCD adopted regulations, approved by USEPA, to implement these programs. The TPP is subject to SJVUAPCD rules and regulations, in particular Regulation 20.3 (NSR), which defines requirements for Best Available Control Technology (BACT), offsets, and emission calculation procedures.

The following discussion provides an overview of air quality in San Joaquin County and describes the conclusions reached by SJVUAPCD and Staff.

3. Ambient Air Quality

To obtain representative ambient air quality data, Staff relied on the following seven air monitoring stations in the project area: Tracy – Patterson Pass Road, Stockton- E. Mariposa, Stockton – Hazelton Street, Stockton – Wagner Holt School, Stockton – Claremont, Concord – Treat Boulevard and Bethel Island Road. Ozone and $NO_2$ were monitored at the Tracy station. $PM_{10}$ and CO were monitored at the Stockton monitoring stations, which are less than 20 miles northeast of the project site. $SO_2$ was monitored at the Concord and Bethel Island Road monitoring stations in Contra Costa County. (Ex. 4, pp. 5-10, 5-19.) The highest values from the Stockton monitoring stations and the Concord and Bethel Island Road monitoring stations were used for modeling and analysis.

Ozone ($O_3$). Ozone is not directly emitted from stationary or mobile sources, but is formed as the result of chemical reactions in the atmosphere between directly emitted air pollutants. Nitrogen oxides ($NO_x$) and hydrocarbons (Volatile Organic Compounds [VOCs]) interact in the presence of sunlight to form ozone. The San Joaquin Valley air basin is classified as severe non-attainment for ozone because it violates both National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). (Ex. 4, p. 5-10.) However, there is a general overall gradual downward trend for both maximum ozone concentrations and number of violations. (Ex. 4, p. 5-11.)

Inhalable Particulate Matter ($PM_{10}$). The project area experiences a number of violations of the state 24-hour $PM_{10}$ standard on an annual basis; however the federal 24-hour standard is generally met. The San Joaquin Valley Air Basin is

considered non-attainment of both state and federal $PM_{10}$ standards. (Ex. 4, p. 5-13.)

$PM_{10}$ can be emitted directly or it can be formed many miles downwind from emission sources when various precursor pollutants interact in the atmosphere. Under certain meteorological conditions, gaseous emissions of pollutants such as $NO_x$ and $SO_x$ and reactive organic compounds (ROC) from turbines, and ammonia from $NO_x$ control equipment can form particulate matter such as nitrates ($NO_3$), sulfates ($SO_4$) and organic particles. These pollutants are known as secondary particulates because they are not directly emitted but are formed through complex chemical reactions in the atmosphere. $NO_x$ emissions contribute significantly to the formation of particulate nitrates in the region. The highest PM concentrations are measured during the winter months. (Ex. 4, p. 5-13.)

Fine Particulate Matter ($PM_{2.5}$). The air agencies in California are now deploying $PM_{2.5}$ ambient air quality monitors throughout the state. $PM_{2.5}$ ambient air quality attainment plans, if needed, are due to the U.S. EPA by 2005. The 24-hour average $PM_{2.5}$ concentration levels have been declining at the Stockton monitoring stations and have been below the proposed NAAQS of 65 $\mu g/m^3$ since 1994. Although the local $PM_{2.5}$ concentrations are within the proposed $PM_{2.5}$ standards, the current maximum $PM_{2.5}$ concentrations found in the San Joaquin Valley are above the proposed $PM_{2.5}$ standards. Therefore, the entire air basin will likely be determined to be in nonattainment of the $PM_{2.5}$ standards when they take effect. The $PM_{2.5}$ standards will not take effect until the legal challenges of these standards have been resolved. (Ex. 4, pp. 5-13, 5-16.)

Carbon Monoxide (CO). According to the data recorded at various Stockton air monitoring stations, there have been no violations of CAAQS or NAAAQS since 1991 for the eight-hour CO standard. San Joaquin County is attainment and attainment/unclassified for state and federal CO standards, respectively. CO

emissions are a local pollutant found near the source of emission. The highest concentrations of CO occur when low wind speeds and a stable atmosphere trap the pollution emitted at or near ground level in what is known as the stable boundary layer. These conditions occur frequently in the wintertime late in the afternoon, persist during the night and may extend one or two hours after sunrise. Mobile sources (motor vehicles) are the main cause of CO and peak CO concentrations occur during rush hour traffic in the morning and afternoon. (Ex. 4, p. 5-17.)

Nitrogen Dioxide (NO2). While the San Joaquin County is attainment for the state and unclassified for the federal 1-hour and annual $NO_2$ standards, $NO_2$ is still a concern as a precursor pollutant of ozone and $PM_{10}$. Approximately 90 percent of the $NO_X$ emitted from combustion sources is NO, while the balance is $NO_2$. NO is oxidized in the atmosphere to $PM_{10}$ but some level of photochemical activity is needed for this conversion. The highest concentrations of $NO_2$ occur during the fall and not in the winter when atmospheric conditions favor the trapping of ground level releases but lack significant photochemical activity (less sunlight). In the summer the conversion rates of NO to $NO_2$ are high but the relatively high temperatures and windy conditions (atmospheric unstable conditions) disperse pollutants, preventing the accumulation of $NO_2$ to levels approaching the 1-hour ambient air quality standard. (Ex. 4, p. 5-18.)

Sulfur Dioxide ($SO_2$). San Joaquin Valley air basis is designated attainment for all $SO_2$ state and federal ambient air quality standards. Concentrations of $SO_2$ in the air basin are well below these standards. $SO_2$ is typically emitted as a result of the combustion of a fuel containing sulfur. Fuels such as natural gas contain very little sulfur and consequently have very low $SO_2$ emissions when combusted, whereas fuels high in sulfur content such as lignite (a type of coal) emit very large amounts of $SO_2$ when combusted. Sources of $SO_2$ emissions within the San Joaquin Valley air basin come from every economic sector and include a wide variety of fuels, gaseous, liquid and solid. (Ex. 4, pp. 5-18, 5-19.)

4. Potential Impacts

Methodology. Applicant used USEPA-approved air dispersion modeling to calculate the worst case turbine configuration that would result in the highest emission impacts. These results were included in a more refined modeling analysis using meteorological and ambient air data provided by the Air District. (Ex. 1, § 8.1.4.3; Ex. 4, pp. 5-33, 5-34, 5-37.) These calculations describe project emissions prior to installation of control technology.

Staff refined the $PM_{10}$ cumulative modeling using refined emission source information from the TPP, the Tesla Power Plant Project and the East Altamont Energy Center project, which was not available to the Applicant at the time of its analysis. Staff's refined $PM_{10}$ cumulative modeling analysis used the same model and meteorological data and same general modeling approach as that used by the Applicant. (Ex. 4, p. 5-34.)

Construction. The primary emission sources during construction will be diesel exhaust from heavy equipment and fugitive dust from disturbed areas at the site. (Ex. 4, pp. 5-20, 5-21.) Applicant's modeling results indicate that maximum concentrations of construction related emissions ($PM_{10}$, CO, $NO_2$ and $SO_2$) will occur at the fence line and decrease significantly with distance. Under worst-case conditions these emissions would cause violations of the $PM_{10}$ (24-hour and annual) and CO (8-hour) ambient air quality standards. (Ex. 4, p. 5-35.)

Staff reviewed Applicant's CO emission estimates and determined that Applicant had overestimated the CO emission potential from the gasoline powered construction equipment. Staff recalculated the CO emissions. The resultant estimated maximum CO concentrations is provided in **Air Quality Table 19**, replicated below. It should be noted that the background concentrations used from an urban monitoring site in Stockton almost certainly overestimate the short-

term maximum background CO concentrations that occur at the more rural TPP site area. (Ex. 4, p. 5-36.)

**AIR QUALITY: Table 19**
**Tracy Peaker Project Ambient Air Quality Impact**
**Staff Revised CO Construction Concentration Results**

| Pollutant | Averaging Period | Project Impact ($\mu g/m^3$) | Background ($\mu g/m^3$) | Total Impact ($\mu g/m^3$) | Limiting Standard ($\mu g/m^3$) | Type of Standard | Percent of Standard |
|---|---|---|---|---|---|---|---|
| CO | 1-Hour | 1,299 | 12,995 | 14,294 | 23,000 | CAAQS | 62 |
| | 8-Hour | 719 | 8,778 | 9,497 | 10,000 | CAAQS | 95 |

Source: Ex. 4, p. 5-36.

Commissioning. Applicant modeled the "worst case" scenario for initial commissioning assuming both CTGs were being commissioned at the same time, and using short-term emission estimates that reflect higher commissioning emissions. (Ex. 4, p. 5-39.) Modeling results indicate that the project's commissioning impacts, except for $PM_{10}$, will not cause or contribute to exceedances of ambient air quality violations. (Ex. 4, p. 5-39.)

Startup and commissioning for the TPP CTGs is estimated to occur over approximately six-weeks from first fire to full load commercial operation. The project owner will minimize emissions of CO, $NO_x$, and other pollutants by limiting the test time of each commissioning activity to the shortest duration feasible. The $NO_x$ and CO catalyst will be installed at the earliest possible time in the testing cycle, consistent with the manufacturer's recommendations. Prior to initial startup of each CTG, a continuous emissions monitoring (CEM) system will be installed, tested, and calibrated to measure criteria pollutants during startup and commissioning. (Ex. 1, § 8.1.5; Ex. 4, pp. 5-27, 5-28.) During this testing period the operation of the CTG without abatement will be limited to those commissioning activities whereby the SCR and CO catalyst must not be installed. The maximum duration of the initial commissioning process is 30 days. (Ex. 4, p. 5-28.)

Operation. Applicant's modeling results indicate that the project's maximum operational impacts will be located in elevated terrain away from the main population areas of the City of Tracy. The results also show that project operation will not create violations of $NO_2$, $SO_2$ or CO standards, but could further exacerbate violations of the $PM_{10}$ standards.[17] A summary of the modeling results is shown in the following table, which is replicated from Staff's **Air Quality Table 20**. (Ex. 4, pp. 5-38, 5-58.)

[17] Early morning air pollution known as fumigation occurs before sunrise when the air is stable. Emissions from elevated stacks rise through the stable air layer and may be mixed with heated ground air as the temperature gets warmer, resulting in a vertical mixing of air and bringing some emissions back to ground level. (Ex. 4, pp. 5-39, 5-40.) Fumigation modeling indicated that fumigation impacts would not exceed applicable AAQS. (Ex. 4, p. 5-40.)

**Air Quality: Table 20**
**Tracy Peaker Project Ambient Air Quality Impact**
**Applicant Routine Plant Operation ISC Modeling Results**

| Pollutant | Averaging Period | Project Impact ($\mu g/m^3$)[a] | Background ($\mu g/m^3$)[b] | Total Impact ($\mu g/m^3$) | Limiting Standard ($\mu g/m^3$) | Type of Standard | Percent of Standard |
|---|---|---|---|---|---|---|---|
| $NO_2$ | 1-Hour | 24.6[c] | 148.5 | 173 | 470 | CAAQS | 37 |
| | Annual | 0.053 | 28.3 | 28.4 | 100 | NAAQS | 28 |
| $PM_{10}$ | 24-Hour | 2.11 | 150 | **152** | 50 | CAAQS | **304** |
| | Annual | 0.03 | 30.2 | **30.5** | 30 | CAAQS | **102** |
| CO | 1-Hour | 46.9 | 12,995 | 13,042 | 23,000 | CAAQS | 57 |
| | 8-Hour | 6.81 | 8,778 | 8,785 | 10,000 | CAAQS | 88 |
| $SO_2$ | 1-Hour | 34 | 128 | 162 | 655 | CAAQS | 25 |
| | 3-Hour | 11.3[d] | 116 | 127 | 1300 | NAAQS | 9 |
| | 24-Hour | 1.4[d] | 32 | 33.4 | 105 | CAAQS | 32 |
| | Annual | 0.004 | 5.3 | 5.3 | 80 | NAAQS | 7 |

From AFC (GWF 2001a), Table 8.1-19, page. 8.1-51.
Note(s):
a. Worst-case impact for applicable averaging time.
b. Background represents the maximum value measured at Tracy or Stockton, 1995-2000 (except for $SO_2$, which was measured at Fresno).
c. The maximum hourly $NO_x$ impact modeled assuming that the emergency engine is operating is 212 $\mu g/m^3$, which including the maximum hourly background concentration provides a resulting maximum 1-hour $NO_2$ concentration of 361$\mu g/m^3$.
d. The 3-hour and 24-hour maximum concentrations provided by the Applicant are not consistent with the 1-hour maximum. The maximum short-term $SO_2$ concentrations are due to the operation of the emergency engine. Since the operation of the emergency engine will be limited, with the exceptions of an actual emergency, to less than one-hour per day for testing purposes the maximum 3-hour and 24-hour concentrations can be expressed to be at least 1/3rd and 1/24th the maximum 1-hour concentration, respectively.

Source: Ex. 4, p. 5-38.

The project's NOx, $SO_2$, VOC and ammonia emissions can contribute to the formation of secondary pollutants, ozone, and $PM_{10}$, which would contribute to higher ozone and $PM_{10}$ levels in the region. (Ex. 4, p. 5-40.) However, since the project is proposing to fully mitigate all $NO_x$, VOC, and $SO_2$ emissions the project will mitigate its secondary pollutant formation impacts from those pollutants.

The ammonia emissions from the project are due to the existence of the Selective Catalytic Reduction (SCR) system, which controls the $NO_x$ emissions,

and are the result of unreacted ammonia, or "ammonia slip," that remains in the exhaust after passing through the SCR catalyst system. (Ex. 4, p. 5-40.) Applicant projects a 10-point ammonia slip. Staff's witness, Mr. Swaney from the Air District, testified that this level of ammonia slip was consistent with the level approved by the Air District for other recent projects in the San Joaquin Valley and that it would not pose a significant risk to the surrounding population. (3/7/02 RT, pp. 227-228.)

Cumulative Impacts. Applicant modeled the cumulative impacts of the TPP and other known projects within a 6-mile radius that were in the permitting process or that had received construction permits from the District but were not yet operational. The only project identified within a 6-mile radius of the TPP was the Tesla Power Plant Project (Tesla). Detailed data from the Tesla project were obtained and used to model its impacts. TPP sources were modeled as a separate group in order to isolate and compare the TPP impacts relative to the impacts from the Tesla project. (Ex. 4, p. 5-50.) The results are summarized in **Air Quality Table 29**, replicated below.

**AIR QUALITY: Table 29**
**Tracy Peaker Project Ambient Air Quality Impact**
**Applicant Cumulative ISC Modeling Results**

| Pollutant | Averaging Period | Project Impact ($\mu g/m^3$) | Background ($\mu g/m^3$)[b] | Total Impact ($\mu g/m^3$) | Limiting Standard ($\mu g/m^3$) | Type of Standard | Percent of Standard |
|---|---|---|---|---|---|---|---|
| $NO_2$ | 1-Hour | 29.6 | 148.5 | 178 | 470 | CAAQS | 38 |
| | Annual | 0.34 | 28.3 | 28.6 | 100 | NAAQS | 29 |
| $PM_{10}$ | 24-Hour | 3.76 | 150 | 154 | 50 | CAAQS | 308 |
| | Annual | 0.25 | 30.2 | 30.5 | 30 | CAAQS | 102 |
| CO | 1-Hour | 56.5 | 12,995 | 13,052 | 23,000 | CAAQS | 57 |
| | 8-Hour | 24.1 | 8,778 | 8,802 | 10,000 | CAAQS | 88 |
| $SO_2$ | 1-Hour | 3.55 | 128 | 132 | 655 | CAAQS | 20 |
| | 3-Hour | 1.84 | 116 | 118 | 1300 | NAAQS | 9 |
| | 24-Hour | 0.52 | 32 | 32.5 | 105 | CAAQS | 31 |
| | Annual | 0.03 | 5.3 | 5.3 | 80 | NAAQS | 7 |

Note: Cumulative modeling includes project turbines during normal operation only; emergency equipment not included.

Source: Ex. 4, p. 5-51.

As **Air Quality Table 29** shows, the proposed project's cumulative impacts would not create violations of $NO_2$, $SO_2$ or CO standards, but could further exacerbate violations of the $PM_{10}$ standards.[18] Staff modeled the TPP, Tesla, and East Altamont Energy Center projects' $PM_{10}$ emissions in order to determine the $PM_{10}$ cumulative impacts for all three projects. The results of the cumulative $PM_{10}$ emissions modeling analysis are provided in **AIR QUALITY Table 30** below.

**Air Quality: Table 30**
**Tracy Peaker Project Ambient Air Quality Impact**
**Staff Cumulative $PM_{10}$ ISC Modeling Results***

| **Pollutant** | **Averaging Period** | TPP Maximum Impact **($\mu g/m^3$)** | Tesla Project Maximum Impact **($\mu g/m^3$)** | **EAEC Project Maximum Impact ($\mu g/m^3$)** | Maximum Total Impact **($\mu g/m^3$)** |
|---|---|---|---|---|---|
| $PM_{10}$ | 24-Hour | 0.93 | 4.78 | 3.02 | 5.56 |
| | Annual | 0.024 | 0.37 | 0.46 | 0.46 |

*These are the maximum impacts for each power plant and they do not represent the same affected area, or for 24-hour impacts they also do not reflect impacts on the same day.

Source: Ex. 4, p. 5-51.

Based on the modeling, Staff determined that the TPP's contribution to any cumulative impacts would be very small. Staff noted that the TPP, due to its elevated exhaust temperature and resultant plume buoyancy, and its physical separation from the other facilities, generally would affect different areas than the other two proposed projects, which have significantly lower exhaust

[18] Applicant's modeling analysis did not include the proposed East Altamont Energy Center (EAEC) Project located approximately 7 miles northwest of the TPP site. However, the modeling results for the TPP and Tesla projects showed that due to the distance between the three projects (TPP, Tesla, and EAEC), the magnitude of each project's maximum direct impacts, and the existing ambient air quality, they do not have the cumulative potential to create violations of $NO_2$, $SO_2$ or CO standards. (Ex. 4, p. 5-51.)

temperatures. Therefore, the TPP would not measurably increase the cumulative impacts of these proposed power projects. (Ex. 4, pp. 5-51, 5-52.)

In addition to the three power plants, a number of non-stationary development projects, such as the Mountain House Development, are planned for the general area surrounding the TPP. The Environmental Impact Reports (EIRs) for these non-stationary development projects generally note that they cause or contribute to significant unavoidable adverse cumulative $PM_{10}$ impacts. However, unlike the non-stationary development projects, the TPP will mitigate its $PM_{10}$ and $PM_{10}$ precursor emissions through the use of best available emission controls and emission offsets and will not have a net emissions increase. Therefore, with the mitigation proposed for this project, and included in the proposed Conditions of Certification, this project will not measurably increase any significant cumulative impacts of $PM_{10}$ that may result from the other development projects. (Ex. 4, p. 52.)

5. Mitigation

Construction. Applicant will use a number of mitigation measures to control exhaust emissions from diesel fueled equipment and to control fugitive dust emissions during the construction phase. Conditions **AQ-C1** and **AQ-C2** require all feasible construction $PM_{10}$ emission mitigation measures be used, including employing a Construction Fugitive Dust Mitigation Plan. Applicant's witness Mr. Stein testified the Plan will include application of water for suppression of dust, using crushed gravel to surface the construction lay down areas and temporary site access, and covering soil stockpiles with plastic. (3/7/02 RT, p.22.) Applicant will also limit tailpipe emissions from construction equipment through engine maintenance and idling restrictions and the use of catalyzed diesel particulate filters on all diesel fueled construction equipment larger than 100 horsepower. (Ex. 4, p. 5-41.) Condition **AQ-C3** requires feasible construction CO emission mitigation measures to ensure that no exceedances of CO

standards occur as a result of the project construction. Condition **AQ-C4**, as an additional construction mitigation, requires that the project's operating phase emission reduction credits be surrendered prior to the initiation of construction.

Best Available Control Technology (BACT). Pursuant to SJVUAPCD Rule 2201, BACT is required for $NO_x$, VOC, $PM_{10}$ and $SO_2$ emissions from any new or modified emission unit that exceeds 2 pounds per day, and CO emissions that exceed 550 pounds per day. The SJVUAPCD defines BACT as the most stringent emission limit or control technology that either a) has been achieved in practice, b) is contained in any State Implementation Plan approved by USEPA, unless demonstrated not to be achievable, or c) is an emission limit found by that District's Air Pollution Control Officer (APCO) to be technologically feasible and cost effective. (Ex. 1, § 8.1.3.) BACT will apply for $NO_x$, VOC, CO, $SO_2$, and $PM_{10}$ emissions from all point sources of the TPP. (Ex. 4, p. 5-3.)

In this case, the SJVUAPCD will limit NOx emissions during project operation to 5.0 ppmvd (at 15% $O_2$) over a 3-hour rolling average. (Ex. 4, p. 5-42.) VOC concentrations are limited to 2.0 ppmvd (at 15% $O_2$) over a 3-hour rolling average and CO concentrations are limited to 6.0 ppmvd (at 15% $O_2$) over a 3-hour rolling average. $PM_{10}$ emissions are limited to 10.4 pounds per hour. $SO_x$ emissions are limited to 0.78 pounds per hour and $NH_3$ emissions are limited to 10 ppmvd (at 15% $O_2$) over a 24-hour rolling average. To achieve these limits Applicant will employ dry low $NO_x$ (DLN) combustors, Selective Catalytic Reduction (SCR) with ammonia injection[19] and an oxidation catalyst, and will operate exclusively on pipeline quality natural gas. In addition, the Preliminary Decision for the Proposed Issuance of an Authority to Construct sets forth emissions control technology and limits, and the emergency diesel generator for the project will have to meet SJVAPCD BACT requirements. (Ex. 4, p. 5-42.)

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[19] Applicant proposed use of SCR, is quite innovative in that there are no other 7E frame turbines that are using a hot-temperature selective catalytic reduction system. (3/7/02 RT, p. 155.)

The USEPA currently requires consideration of alternative technologies in the BACT analysis. (Ex. 1, § 8.1.3.1.) Intervenor Sarvey questions Applicant's decision to use SCR instead of the newer potentially more efficient technologies such as $SCONO_x$ or XONON. (3/7/02 RT, p. 39.) Applicant does not believe $SCONO_x$ is a feasible alternative to SCR. $SCONO_x$ has only been demonstrated on smaller, aeroderivative turbines and will require significant scale-up for application to the much larger TPP; this would pose a significant risk to the reliability of the power plant. $SCONO_x$ technology is also very, very expensive. (3/7/02 RT, pp. 39-41.) In addition, $SCONO_x$ operates in a temperature range of 300 to 700 degrees, and operating exhaust temperatures of the simple-cycle turbines to be used for the TPP will be approximately 1000 degrees. A significant amount of temperation air would be required to reduce exhaust temperatures to an acceptable level. (Ex. 1, § 8.1.3.1.) Nor is XONON an available control technology for the TPP since the manufacturer does not currently offer a XONON combustion option for the GE 7EA turbine line that is proposed for the TPP. (*Ibid.*)[20]

Emission Reduction Credits (ERCs). Emission reduction credits (ERCs or offsets) are created when existing permitted emission sources cease or reduce their operations below permitted levels. The ERCs are approved and "banked" by the Air District. The ERC program is designed to function on a regional basis and therefore offsets are not required to be in close proximity to a new source of emissions. (3/7/02 RT, p. 34.) Calculations of the required ERCs are based on the distance of the project from different sources of offsets. The District requires a 1.2:1 offsetting ratio for off-site ERCs within 15 miles. For areas outside of the

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[20] Intervenor Sarvey also submitted the written testimony of Mike Boyd which suggested Applicant had a history of violations at the Tracy Biomass Plant (which Applicant has operated since approximately July 2001), and that additional monitoring and enforcement measures should be imposed. However, Intervenor Sarvey failed to provide any direct evidence of such violations, and Applicant denies any such history of violations. We therefore find there is insufficient evidence to establish that additional monitoring or enforcement measures are required.

15 mile radius, ERCs must be provided at a ratio of 1.5:1. (Ex. 4, p. 5-43.) In this case, to fully mitigate the maximum project emissions, offsets (mitigation) are required for $NO_x$, $PM_{10}$, VOC and $SO_2$.

Applicant proposes to provide ERCs in excess of those required to mitigate the project's potential emissions, which will result in a net improvement in regional air quality. (3/7/02 RT, p. 33.) Applicant will fully offset the project's VOC and $SO_2$ emissions above both the District's and the Commission's normal requirements as an additional air quality benefit of the project.[21] Applicant will also fully offset the project's CO emissions, which is not required by the District or the Commission, as an additional air quality benefit of the project. (Ex. 4, p. 5-42.) In addition, Applicant is fully offsetting the project's $NO_x$ and $PM_{10}$ emissions and is in compliance with the offset provisions of District Rule 2201. (Ex. 4, pp. 5-44, 5-47.) Applicant has already purchased or has the rights to purchase ERCs in quantities that are sufficient to offset the project. (Ex. 4, p. 5-43.)

Applicant is proposing several sources of offsets. A listing of the proposed sources is set forth in **Air Quality Tables 24** through **28**, which are contained in Exhibit 4 (Staff Assessment) at pages 5-44 through 5-49. These proposed sources are located throughout the San Joaquin Valley, including in Fresno County, Kern County, Stockton, Sacramento, Earlimart and Hanford. Although some of the offsets are relatively close to Tracy others are more than 200 miles away.

Intervenors Sarvey, Sundberg and Hooper and various members of the public expressed a desire that offsets for the project be purchased locally. Staff

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[21]VOC and $SO_2$ emission offsets are not required by District Rule 2201 for this project. However, VOC emissions are a precursor to ozone and $SO_2$ emissions are a precursor to $PM_{10}$, and both VOC and $SO_2$ are nonattainment pollutants at the project site area. For CEQA compliance, the CEC requires that all non-attainment pollutants and their precursors that do not require offsets by District regulation be mitigated at a minimum 1:1 ratio. The Applicant intends to provide offsets for the VOC and $SO_2$ emissions using the District's distance offset ratio formula, which is 1.2:1 for

supplied Applicant with a list of local emission reduction credits and also encouraged Applicant (without making it a condition of certification) to participate in a community benefits program that might reduce $PM_{10}$ in the area. (3/7/02 RT, p. 77.) In response, Applicant submitted proposed voluntary conditions for a Local Air Quality Enhancement Program. (3/13/02 RT, p. 9; Ex. 48.) Applicant proposes to provide and implement a program of local $PM_{10}$ and ozone precursor emission reductions. Applicant will prepare the emission reduction plan in coordination with SJQUAPCD, the City of Tracy and San Joaquin County. The Commission accepts Applicant's voluntary condition and hereby adopts it as Condition **AQ-78**.

Applicant also agreed to participate in a local task force to identify areas of concern and community benefits Applicant could provide to the Tracy community. On or about May 10, 2002, a Community Programs and Benefits Agreement was reached between the City of Tracy and Applicant. Pursuant to the Agreement Applicant has agreed to pay a maximum of $600,000.00 for specific programs designed to improve air quality, including clean diesel conversions for the Tracy Biomass Plant and Area School Districts, a lawnmower replacement program and upgrading of the Tracy Patterson Pass Air Quality Monitoring Station. Applicant has also agreed to provide the community with $700,000.00 in charitable funds over a 10-year period. During the Committee Conference scheduled for July 2, 2002, the evidentiary record will be reopened for the limited purpose of receiving the Community Programs and Benefits Agreement into evidence.

6. Facility Closure

Eventually the TPP will close, either as a result of the end of its useful life, or through some unexpected situation such as a natural disaster or catastrophic

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off-site ERCs within 15 miles of the project site and 1.5:1 for areas outside of the 15 mile radius. (Ex 4, pp. 5-43, 5-47, 5-48.)

facility breakdown. When the facility closes, all sources of air emissions would cease and thus all impacts associated with those emissions would no longer occur.

The Permit to Operate, issued by the District, is required for operation of the facility and the Applicant must pay permit fees annually while it maintains the Permit to Operate. If the Applicant chooses to close the facility and not pay the permit fees, then the Permit to Operate would be cancelled. In that event, the project could not restart and operate unless the Applicant pays the fees to renew the Permit to Operate.

If the project owner decided to dismantle the project, there would likely be fugitive dust emissions associated with this dismantling effort. The Facility Closure Plan to be submitted to the Energy Commission Compliance Project Manager will include plans to comply with closure procedures, including the control of fugitive dust emissions. (Ex. 4, pp. 5-55, 5-56.)

**FINDINGS AND CONCLUSIONS**

Based on 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 and 2.5 microns in diameter ($PM_{10}$ and $PM_{2.5}$) and their precursors: nitrogen oxides ($NO_x$), volatile organic compounds (VOC), and $SO_x$.

2. The San Joaquin Valley Unified Air Pollution Control District (Air District) has jurisdiction over the area where the project site is located.

3. The Air District is a non-attainment area for both the state and federal ozone and $PM_{10}$ standards and attainment for all other criteria pollutants.

4. Construction and operation of the project will result in emissions of criteria pollutants and their precursors.

5. The Air District issued a Final Determination of Compliance for the TPP that finds the project will comply with all applicable District rules.

6. Applicant will employ the best available control technology (BACT) to limit pollutant emissions by installing SCR technology.

7. Project $NO_x$ emissions are limited to 5 parts per million volume dry (ppmvd) corrected at 15 percent oxygen averaged over three hours.

8. Project ammonia slip emissions resulting from use of SCR are limited to 10 ppmvd.

9. No adverse public health effects will result from the 10 ppmvd ammonia slip maximum limit.

10. Applicant has secured all the required offsets to fully mitigate the project.

11. Project emissions will not result in cumulative impacts to air quality in the project vicinity.

12. Implementation of the Conditions of Certification, below, ensures that the TPP will not result in any significant adverse impacts to air quality.

The Commission, therefore, concludes that with implementation of the Conditions of Certification, below, and the mitigation measures described in the evidentiary record, the Tracy Peaker Project 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

**AQ-C1** Prior to breaking ground at the project site, the project owner shall prepare a Construction Fugitive Dust Mitigation Plan that will specifically identify fugitive dust mitigation measures that will be employed for construction activities at the Tracy Peaker Project site and related facilities.

The Construction Fugitive Dust Mitigation Plan shall specifically identify measures to limit fugitive dust emissions from construction of the project site and linear facilities. Measures that should be addressed include the following:

- the identification of the employee parking area(s) and surface of the parking area(s);
- the frequency of watering of unpaved roads and disturbed areas;
- the application of chemical dust suppressants;
- the use of gravel in high traffic areas and the construction laydown area;
- the covering of soil stockpiles;
- the use of paved access aprons;
- the use of sandbags to prevent run off;
- the use of posted speed limit signs limiting speed to 10 MPH;
- the use of wheel washing areas prior to large trucks leaving the project site;
- the methods that will be used to clean tracked-out mud and dirt from the project site onto public roads;
- the use of windbreaks at appropriate locations;
- the suspension of all earth moving activities under windy conditions; and,
- the use of on-site monitoring devices.

**Verification:** At least sixty (60) days prior to breaking ground at the project site, the project owner shall provide the California Energy Commission Compliance Project Manager (CPM) with a copy of the Construction Fugitive Dust Mitigation Plan for approval.

**AQ-C2** The project owner shall mitigate, to the extent practical, construction related emission impacts from off-road, diesel-fired construction equipment. Available measures that may be used to mitigate construction impacts include the following:

- Catalyzed Diesel Particulate Filters (CDPF);
- Ultra-Low-Sulfur Diesel fuel, with a sulfur content of 15 ppm or less (ULSD);
- Diesel engines certified to EPA and CARB 1996 or newer off-road equipment emission standards.

Additionally, the project owner shall restrict idle time, to the extent practical, to no more than 10 minutes.

The use of each mitigation measure is to be determined in advance by a Construction Mitigation Manager (CMM), who will be available at the project site(s). The CMM must be approved by the CPM prior to the submission of any reports.

The CMM shall submit the following reports to the CPM for approval:

- Construction Mitigation Plan
- Reports of Change and Mitigation Implementation

- Reports of Emergency Termination of Mitigation, as necessary

Diesel Construction Equipment Mitigation Plan:

The Construction Mitigation Plan shall be submitted to the CPM for approval prior to rough grading on the project site, and must include the following:

- A list of all diesel fueled, off-road, stationary or portable construction-related equipment to be used either on the project construction site or the construction sites of the related linear facilities. Equipment used less than a total of 10 consecutive days need not be included in this list.

- Each piece of construction equipment listed under item (1) must demonstrate compliance with the following mitigation requirements:

| Engine Size (BHP) | 1996 CARB or EPA Certified Engine | Required Mitigation |
|---|---|---|
| < or =100 | Yes or No | ULSD |
| >100 | Yes | ULSD |
| >100 | No | ULSD and CDPF, if suitable as determined by the CMM |

- If compliance can not be demonstrated as specified under item (2), then the project owner may appeal for relief to the CPM. However, the owner must demonstrate that they have made a good faith effort to comply as specified under item (2).

**REPORT OF CHANGE AND MITIGATION IMPLEMENTATION**

Following the initiation of construction activities, and if changes to mitigation measures are necessary, the CMM shall submit a Report of Change and Mitigation Implementation to the CPM for approval. This report must contain at a minimum the cause of any deviation from the Construction Mitigation Plan, and verification of any Construction Mitigation Plan measures that were implemented.

The following is acceptable proof of compliance, other methods of proof of compliance must be approved by the CPM.

1) EPA or CARB 1996 off-road equipment emission standards:

A copy of the certificate from EPA or CARB.

2) Purchase and use of ultra-low-sulfur fuel (15 ppm or less).

Receipt or other documentation indicating type and amount of fuel purchased, from whom, where delivered and on what date; and

A copy of the text included in the contract agreement with all contractors and sub-contractors for use of the ultra-low-sulfur fuel in diesel burning construction equipment as identified in the Construction Mitigation Plan.

3) Installation of CDPF:

The suitability of the use of CDPFs is to be determined by a qualified mechanic or engineer who must submit a report to the CPM for approval.

Installation is to be verified by a qualified mechanic or engineer.

4) Construction equipment engine idle time:

A copy of the text included in the contract agreement with all contractors and sub-contractors to keep engine idle time to 10 minutes or less to the extent practical.

**Report of Emergency Termination of Mitigation**

If a specific mitigation measure is determined to be detrimental to a piece of construction equipment or is determined to be causing significant delays in the construction schedule of the project or the associated linear facilities, the mitigation measure may be terminated immediately. However, notification containing an explanation for the cause of the termination must be sent to the CPM for approval. All such causes are restricted to one of the following justifications and must be identified in any Report of Emergency Termination of Mitigation.

The measure is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or power output due to an excessive increase in back pressure.

The measure is causing or is reasonably expected to cause significant engine damage.

The measure is causing or is reasonably expected to cause a significant risk to nearby workers or the public.

Any other seriously detrimental cause which has approval by the CPM prior to the change being implemented.

**Verification:** The project owner will submit to the CPM for approval the qualifications of the CMM at least 45 days prior to the due date for the Diesel Construction Equipment Mitigation Plan. The project owner will submit the Diesel Construction Equipment Mitigation Plan to the CPM for approval 30 calendar days prior to rough grading on the project site or start of construction on any associated linear facilities. The project owner will submit the Report of Change

and Mitigation Implementation to the CPM for approval no later than 10 working days following the use of the specific construction equipment on either the project site or the associated linear facilities. The project owner will submit a Report of Emergency Termination of Mitigation to the CPM for approval, as required, no later than 10 working days following the termination of the identified mitigation measure. The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

**AQ-C3** The project owner shall mitigate, to the extent practical, construction related emission impacts from off-road, gasoline-fired construction equipment. Measures that shall be used to mitigate construction CO impacts are as follows:

A. Small off-road gasoline powered construction equipment (i.e. 25 BHP or less) used at the project site and in the construction of the off-site water pipeline shall have been manufactured since 1995 and shall meet California Emission Standards for Small Off-Road Engines (California Code of Regulations Article 1 and Article 3, Chapter 9, Division 3, Title 13).

B. Large off-road gasoline powered construction equipment (i.e. over 25 BHP), if any are used at the site, shall be equipped with catalytic converters to control CO emissions.

C. All on-road gasoline powered construction vehicles, excluding personal vehicles, shall meet California emission standards.

Gasoline Construction Equipment Mitigation Plan:

The Construction Mitigation Plan shall be submitted to the CPM for approval prior to rough grading on the project site, and must include the following:

1. A list of all gasoline fueled, off-road, on-road, stationary or portable construction-related equipment to be used either on the project construction site or the construction sites of the related linear facilities. Equipment used less than a total of 10 consecutive days need not be included in this list.

2. Each piece of construction equipment listed under item (1) must demonstrate compliance with the mitigation requirements (A) through (C) listed above.

1. If compliance cannot be demonstrated as specified under item (2), then the project owner may appeal for relief to the CPM. However, the owner must demonstrate that they have made a good faith effort to comply as specified under item (2).

**Verification:** The project owner will submit the Gasoline Construction Equipment Mitigation Plan to the CPM for approval 30 calendar days prior to rough grading on the project site or start of construction on any associated linear facilities. The CPM will monitor the approval of all reports submitted by the project owner in consultation with CARB, limiting the review time for any one report to no more than 20 working days.

**AQ-C4** The project owner shall surrender to the District emission reduction credits in the following amounts to mitigate project emissions:

| | Required ERCs after application of offset ratios (lbs/quarter) | | | |
|---|---|---|---|---|
| Pollutant | 1st Quarter | 2nd Quarter | 3rd Quarter | 4th Quarter |
| $NO_x$ | 71,704 | 71,704 | 71,756 | 71,756 |
| CO | 35,768 | 35,768 | 35,852 | 35,852 |
| $PM_{10}$ | 41,200 | 41,200 | 41,200 | 41,200 |
| VOC | 6,686 | 6,680 | 6,680 | 6,686 |
| $SO_2$ | 2,800 | 2,800 | 2,800 | 2,800 |

Protocol: This condition serves to replace the ERC requirements listed in District condition **AQ-62**, by adding the additional CEQA mitigation proposed by the Applicant for $PM_{10}$, VOC, CO and $SO_2$ emissions. The values listed above are discounted for distance offset ratios required by Rule 2201, assume Rule 2201 allowed inter-quarter transfers, and assume $SO_2$ for $PM_{10}$ distance/interpollutant offset ratio as specified in **AQ-63**.

**Verification:** At least 5 days prior to commencing construction, the project owner shall provide to the CPM a copy of the documentation from the District proving that the required emission reduction credits have been surrendered.

**AQ-1** The owner shall not begin actual onsite construction of the equipment authorized by the Authority to Construct until the lead agency satisfies the requirements of the California Environmental Quality Act (CEQA). [California Environmental Quality Act]

**Verification:** The project owner/operator shall keep proof of the project's District air permit and CEC certification including copies of all permit conditions and Conditions of Certification onsite starting at the commencement of construction through the final decommissioning of the project. The project owner shall make the District's permit conditions and Conditions of Certification available at the project site to representatives of the District, ARB, EPA and the Energy Commission for inspection.

**AQ-2** The owner shall notify the District of the date of initiation of construction no later than 30 days after such date, the date of anticipated startup not more than 60 days nor less than 30 days prior to such date, and the date of actual startup within 15 days after such date. [District Rule 4001]

**Verification:** The project owner/operator shall notify the CPM and the District of the date of initiation of construction no later than 30 days after such date, the date of anticipated startup not more than 60 days or less than 30 days prior to such date, and the date of actual startup within 15 days after such date.

**AQ-3** No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

**Verification:** The project owner/operator shall make the site available for inspection by representatives of the District, California Air Resources Board (CARB) and the Commission.

**AQ-4** Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-5** No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20 percent opacity. [District Rule 4101]

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

**AQ-6** The owner shall submit continuous emission monitor design, installation, and operational details to the District at least 30 days prior to commencement of construction. [District Rule 2201]

**Verification:** The project owner/operator shall provide copies of drawings of the continuous emission monitor and design, installation, and operations details to the CPM and the District at least 30 days prior to the construction of permanent foundations.

**AQ-7** CTG exhaust shall be equipped with a continuously recording emission monitor(s) dedicated to each unit for NOx, CO, and O2. Continuous emissions monitor(s) shall meet the requirements of 40 CFR part 60, Appendices B and F, and 40 CFR part 75, and District-approved protocol, and shall be capable of monitoring emissions during normal operating conditions and during startups and shutdowns, provided the CEM(s) pass the relative accuracy requirement for startups and shutdowns specified herein. If relative accuracy of CEM(s) cannot be demonstrated during startup conditions, CEM results during startup and shutdown events shall be replaced with startup emission rates obtained from source testing to determine compliance with emission limits contained in this document. [District Rules 2201, 4001, and 4703]

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

**AQ-8** The gas turbine engines shall be equipped with a continuous monitoring system to measure and record hours of operation and fuel consumption. [District Rules 2201, 4001, and 4703]

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

**AQ-9** The CEM for NOx and O2 shall meet the applicable performance specification requirements in 40 CFR, Part 51, Appendix P and Part 60, appendix B, or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the Environmental Protection Agency. [District Rule 1080]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-10** Audits of continuous emission monitors shall be conducted quarterly, except during quarters in which relative accuracy and compliance source testing are both performed in accordance with EPA guidelines. The District shall be notified prior to completion of the audits. Audit reports shall be submitted to the District along with quarterly compliance reports. [District Rule 1080]

**Verification:** The project owner/operator shall submit the continuous emission monitor audit results with the quarterly reports required of Condition **AQ-40**.

**AQ-11** Combustion turbine generator (CTG) and electrical generator lube oil vents shall be equipped with mist eliminators to maintain visible emissions from lube oil vents no greater than 5 percent opacity, except for up to three minutes in any hour. [District Rule 2201]

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

**AQ-12** All equipment shall be maintained in proper operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]

**Verification:** Upon request, the project owner/operator shall make all maintenance records and reports available at the project site to representatives of the District, ARB, EPA and the Energy Commission for inspection.

**AQ-13** The owner shall monitor and record the NOx emission rate, the CO emissions rate, the ammonia injection rate, the exhaust temperature, the exhaust oxygen content, and the exhaust flow rate. [District Rule 4703 and 4001]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-14** The exhaust stack shall be equipped with permanent provisions for stack gas sample collection. The sampling ports shall be located in accordance with the CARB regulation titled California Air Resources Board Air Monitoring

Quality Assurance Volume VI, Standard Operating Procedures for Stationary Emission Monitoring and Testing. [District Rule 1081]

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

**AQ-15** A selective catalytic reduction (SCR) system and oxidation catalyst shall serve the gas turbine engine. Exhaust ducting shall be equipped with a fresh air inlet and blower to be used to lower the exhaust temperature prior to inlet of the SCR system catalyst. Permittee shall submit SCR and oxidation catalyst design details to the District at least 30 days prior to commencement of construction. [District Rule 2201]

**Verification:** The project owner/operator shall provide copies of drawings of the chosen SCR system and oxidation catalyst design, installation, and operations details to the CPM and the District at least 30 days prior to the construction of permanent foundations.

**AQ-16** These units shall exclusively burn only natural gas with a sulfur content of no greater than 0.25 grains of sulfur compounds (as S) per 100 dry scf of natural gas. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-17** During startup or shutdown of any gas turbine engine, combined emissions from the two gas turbine engines (N-4597-1 and N-4597-2) shall not exceed the following: NOx (as NO2) - 26 lb and CO - 42 lb in any one hour. [California Environmental Quality Act]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-18** Startup is defined as the period beginning with turbine initial firing until the unit meets the lb/hr and ppmvd emission limits. Shutdown is defined as the period beginning with initiation of turbine shutdown sequence and ending with cessation of firing of the gas turbine engine. Startup of the CTG shall not exceed a time period of 20 minutes each per occurrence. Shutdown of the CTG shall not exceed a time period of 30 minutes each per occurrence. Startup and shutdown events shall not exceed 250 occurrences per calendar year. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-19** Operation of the turbine shall not exceed 8,000 hours per calendar year. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-20** Emissions from this unit, except during startup and shutdown events, shall not exceed any of the following: NOx (as NO2) – 26.45 lb/hr and 5.0 ppmvd

@ 15 percent O2; VOC - 2.42 lb/hr and 2.0 ppmvd @ 15 percent O2; CO - 26.57 lb/hr and 6.0 ppmvd @ 15 percent O2; PM10 - 10.4 lb/hr; and SOx (as SO2) - 0.78 lb/hr. All emission concentration limits are three-hour rolling averages. [District Rules 2201, 4001, and 4703]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-21** Emissions from this unit shall not exceed any of the following: NOx (as NO2) – 493.3 lb/day; VOC – 42.4 lb/day; CO – 235.7 lb/day; PM10 – 249.6 lb/day; and SOx (as SO2) – 18.7 lb/day. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-22** Combined quarterly emissions from N-4597-1 and N-4597-2 shall be calculated for each calendar quarter and shall not exceed any of the following: NOx (as NO2) - Q1: 76,704 lb, Q2: 76,704 lb, Q3: 76,756 lb, and Q4: 76,756 lb; VOC - Q1: 6,676 lb, Q2: 6,676 lb, Q3: 6,680 lb, and Q4: 6,680 lb; and PM10 - Q1: 41,200 lb, Q2: 41,200 lb, Q3: 41,200 lb, and Q4: 41,200 lb. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-23** Combined annual emissions from N-4597-1 and N-4597-2 calculated on a twelve consecutive month rolling basis shall not exceed any of the following: NOx (as NO2) - 306,920 lb/year; VOC - 26,712 lb/year; and PM10 -164,800 lb/year. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-24** The ammonia (NH3) emissions shall not exceed 10 ppmvd @ 15 percent O2 over a 24 hour rolling average. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-25** Compliance with ammonia slip limit shall be demonstrated utilizing the following calculation procedure: ammonia slip ppmvd @ 15 percent O2 = ((a - (bxc/1,000,000)) x (1,000,000 / b) x d, where a = ammonia injection rate (lb/hr) / (17 lb/lb mol), b = dry exhaust flow rate (lb/hr) / (29 lb/lb mol), c = change in measured NOx concentration ppmvd @ 15 percent O2 across the catalyst and d = correction factor. The correction factor shall be derived annually during compliance testing by comparing the measured and calculated ammonia slip. Alternatively, the permittee may utilize a continuous in-stack ammonia monitor, acceptable to the District to monitor compliance. At least 60 days prior to using a NH3 CEM, the permittee shall submit a monitoring plan for District review and approval. [District Rule 41O2]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-26** Each one-hour period in a three-hour rolling average will commence on the hour. The three-hour average will be compiled from the three most recent one-hour periods. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-27** Daily emissions will be compiled for a twenty-four hour period starting and ending at twelve-midnight. Quarterly emissions shall be calculated for each calendar quarter in a year. Each calendar month in a twelve consecutive month rolling emissions total will commence at the beginning of the first day of the month. The twelve consecutive month rolling emissions total to determine compliance with annual emission limits will be compiled from the twelve most recent calendar months. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-28** Source testing to demonstrate compliance with the NOx, CO, and VOC short-term emission limits (lb/hr and ppmv @ 15 percent O2) shall be conducted within 60 days of initial operation of the CTG and annually thereafter by District witnessed sampling of exhaust gas by qualified independent source testers. [District Rule 1081]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing. Testing shall be conducted within 60 days of initial operation of each CTG and at least once every twelve months.

**AQ-29** Source testing to demonstrate compliance with PM10 short-term emission limit (lb/hr) shall be conducted within 60 days of initial operation, and annually thereafter by District witnessed sampling of exhaust gas by qualified independent source testers. [District Rule 1081]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing. Testing shall be conducted within 60 days of initial operation of each CTG and at least once every twelve months.

**AQ-30** Source testing of startup NOx, CO, VOC and PM10 mass emission rates shall be conducted for one of the gas turbine engines (N-4597-1 or N-4597-2) upon initial operation and at least once every seven years thereafter by District witnessed in-situ sampling of exhaust gases by a qualified independent source test firm. CEM relative accuracy shall be determined during startup source testing in accordance with District approved protocol. [District Rule 1081]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing. Testing shall be conducted within 60 days of initial operation of one CTG and at least once every seven years.

**AQ-31** Compliance with natural gas sulfur content limit shall be demonstrated within 60 days of operation of the CTG and periodically as required by 40 CFR 60 Subpart GG and 40 CFR 75. [District Rules 1081, 2540, and 4001]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing. Testing shall be conducted as required by 40 CFR 60 Subpart GG and 40 CFR 75.

**AQ-32** The District must be notified 30 days prior to any source testing, and a source test plan must be submitted for approval 15 days prior to testing. Official test results and field data collected by source testing shall be submitted to the District within 60 days of testing. [District Rule 1081]

**Verification:** The project owner/operator shall notify the CPM and the District 30 days prior to any compliance source test. The project owner/operator shall provide a source test plan to the CPM and District for the CPM and District approval 15 days prior to testing. The results and field data collected by the source tests shall be submitted to the CPM and District within 60 days of testing.

**AQ-33** Owner shall maintain hourly records of NOx, CO, and ammonia emission concentrations (ppmv @ 15 percent O2), and hourly, daily, and annual records of NOx and CO emissions. Compliance with the hourly, daily, and annual VOC emission limits shall be demonstrated by the CO CEM data and the VOC/CO relationship determined by annual CO and VOC source tests. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-34** Owner shall maintain records of SOx emissions rates in lb/hr and lb/day. SOx emission rates shall be based on fuel use records, natural gas sulfur content, and mass balance calculations. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-35** The owner shall maintain the following records for each CTG: actual turbine startup and stop times (local time), length and reason for reduced load periods, occurrence, duration, and type of any startup, shutdown, or malfunction; emission measurements; total daily and annual hours of operation; and hourly quantity of fuel used. [District Rules 2201 and 4703]

**Verification:** The project owner/operator shall compile required data and submit the information to the CPM is quarterly reports submitted no later than 60 days after the end of each calendar quarter.

**AQ-36** Results of continuous emissions monitoring shall be reduced according to the procedure established in 40 CFR, Part 51, Appendix P, paragraphs 5.0 through 5.3.3, or by other methods deemed equivalent by mutual agreement with the District, the ARB, and the EPA. [District Rule 1080]

**Verification:** The project owner/operator shall compile the required data in the formats discussed above and submit the results to the CPM quarterly.

**AQ-37** The owner shall notify the District of any breakdown condition as soon as reasonably possible, but no later than one hour after its detection, unless the owner or operator demonstrates to the District's satisfaction that the longer reporting period was necessary. [District Rule 1100]

**Verification:** The project owner/operator shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the quarterly reports of Condition **AQ-40**.

**AQ-38** The District shall be notified in writing within ten days following the correction of any breakdown condition. The breakdown notification shall include a description of the equipment malfunction or failure, the date and cause of the initial failure, the estimated emissions in excess of those allowed, and the methods utilized to restore normal operations. [District Rule 1100]

**Verification:** The project owner/operator shall comply with the notification requirements of the District and submit written copies of these notification reports to the CPM as part of the quarterly reports of Condition **AQ-40**.

**AQ-39** The owner shall comply with the applicable requirements for quality assurance testing and maintenance of the continuous emission monitor equipment in accordance with the procedures and guidance specified in 40 CFR Part 60, Appendix F. [District Rule 1080]

**Verification:** The project owner/operator shall submit the continuous emission monitor results with the quarterly reports required of Condition **AQ-40**.

**AQ-40** The owner shall submit a written report for each calendar quarter to the Air Pollution Control Officer (APCO). The report shall be received by the District within 30 days of the end of the quarter and shall include: time intervals, data and magnitude of excess emissions; nature and cause of excess emissions (averaging period used for data reporting shall correspond to the averaging period for each respective emission standard); corrective actions taken and preventive measures adopted; applicable time and date of each period during which a CEM was inoperative (except for zero and span checks) and the nature of system repairs and adjustments; and a negative declaration when no excess emissions occurred. [District Rule 1080]

**Verification:** The project owner/operator shall compile the required data and submit the quarterly reports to the CPM and the APCO within 30 days of the end of the quarter.

**AQ-41** Source testing to demonstrate compliance with the NOx, CO, VOC, PM10, NH3 and fuel gas sulfur content requirements of this permit shall be conducted within 60 days of initial operation. Source testing for NOx, CO, VOC, PM10 and NH3 shall be conducted at least once every twelve months thereafter. [District Rule 2201 and 4001]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing. Testing shall be conducted within 60 days of initial operation of each CTG and at least once every twelve months.

**AQ-42** Source testing to determine the percent efficiency of the turbine shall be conducted annually. [District Rule 4703]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing. Testing shall be conducted within 60 days of initial operation of each CTG and at least once every twelve months.

**AQ-43** Testing to demonstrate compliance with the fuel sulfur content limit of this permit shall be conducted weekly. Once eight consecutive weekly tests show compliance, the fuel sulfur content testing frequency may be reduced to once every calendar quarter. If a quarterly test shows a violation of the sulfur content limit of this permit then weekly testing shall resume and continue until eight consecutive tests show compliance. Once compliance is shown on eight consecutive weekly tests then testing may return to quarterly. [District Rule 2201]

**Verification:** The results of the fuel sulfur content tests shall be submitted to the CPM and the District within 60 days of testing.

**AQ-44** The results of each source test shall be received by the District no later than 60 days after the source test date. [District Rule 1081]

**Verification:** The results and field data collected during source tests shall be submitted to the CPM and the District within 60 days of testing.

**AQ-45** Source testing shall be witnessed or authorized by District personnel. [District Rule 1081]

**Verification:** The project owner/operator shall notify the CPM and the District 30 days prior to any compliance source test. The project owner/operator shall provide a source test plan to the CPM and District for the CPM and District approval 15 days prior to testing.

**AQ-46** Source testing for NOx shall be conducted utilizing EPA method 7E or EPA method 20. The test results shall be corrected to ISO standard conditions as defined in 40 CFR Part 60 Subpart GG Section 60.335. [District Rules 4001 and 4703]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-45**.

**AQ-47** Source testing for CO shall be conducted utilizing EPA method 10 or EPA method 10 B. [District Rule 4703]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-45**.

**AQ-48** Source testing for VOC shall be conducted utilizing EPA method 18 or EPA method 25. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-45**.

**AQ-49** Source testing to measure concentrations of PM10 shall be conducted using EPA methods 201 and 202, or EPA methods 201 A and 202, or CARB method 501 in conjunction with CARB method 5. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-45**.

**AQ-50** Source testing to measure NH3 emissions shall be determined using BAAQMD Method ST-1B. [District Rule 1081]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-45**.

**AQ-51** Source testing for stack O2 content shall be conducted utilizing EPA method 3, EPA method 3A or EPA method 20. [District Rule 4703]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-45**.

**AQ-52** Testing for fuel sulfur content shall be conducted utilizing ASTM method D 3246. [District Rule 4001]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-43**.

**AQ-53** Source testing to determine the percent efficiency of the turbine shall be conducted utilizing the procedures in District Rule 4703 (Stationary Gas Turbines). [District Rule 4703]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-45**.

**AQ-54** The owner shall maintain the following records: the date, time and duration of any malfunction of the continuous monitoring equipment; dates of performance testing; dates of evaluations, calibrations, checks, and adjustments of the continuous monitoring equipment; date and time period which a continuous monitoring system or monitoring device was inoperative. [District Rules 2201 and 4703]

**Verification:** The project owner/operator shall compile required data and submit the information to the CPM is quarterly reports submitted no later than 60 days after the end of each calendar quarter.

**AQ-55** The owner shall maintain records of the cumulative annual facility-wide NOx, VOC, and PM10 emissions. The records shall be updated daily. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance as part of Condition **AQ-54**.

**AQ-56** The owner shall submit to the District information correlating the NOx control system operating parameters to the associated measured NOx output. The information must be sufficient to allow the District to determine compliance with the NOx emission limits of this permit during times that the CEMS is not functioning properly. [District Rule 4703]

**Verification:** The project owner/operator shall provide records of compliance as part of the quarterly reports of Condition **AQ-40**.

**AQ-57** All records required to be maintained by this permit shall be maintained for a period of two years and shall be made readily available for District inspection upon request. [District Rule 2201]

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

**AQ-58** The owner shall submit an application for a Permit to Operate to comply with Rule 2520 - Federally Mandated Operating Permits prior to the implementation of the Authority to Construct. [District Rule 2520]

**Verification:** The project owner/operator shall file their application with the District prior to implementing this Authority to Construct.

**AQ-59** The owner shall submit an application to comply with Rule 2540 (Acid Rain Program) at least 24 months prior to the date that the unit commences operation. [District Rule 2540]

**Verification:** The project owner/operator shall submit to the CPM copies of the Title IV permit and proof that necessary emission allotments have been acquired at least 15 days prior to the initial firing of the turbine(s).

**AQ-60** At least 30 days prior to commencement of construction, the permittee shall provide the District with written documentation that all necessary offsets have been acquired or that binding contracts to secure such offsets have been entered into. [District Rule 2201]

**Verification:** The project owner/operator shall submit to the District written documentation that all necessary offsets have been acquired, or that binding contracts to secure such offsets have been entered into, at least 30 days prior to commencement of construction.

**AQ-61** Upon implementation of the Authority to Construct permit, emission offsets shall be provided for NOx, VOC, and PM-10. The offsets shall be provided at the offset ratio specified in District Rule 2201 (New and Modified Stationary Source Review). [District Rule 2201]

**Verification:** The project owner/operator shall submit to the District written documentation that all necessary offsets have been acquired, or that

binding contracts to secure such offsets have been entered into, upon implementation of the Authority to Construct permit.

**AQ-62** Offsets shall be provided in the amount that will mitigate the increase in NOx emissions of 71,730 pounds per calendar quarter, the increase in VOC emissions of 1,678 pounds per calendar quarter, and the increase in PM-10 emissions of 33,900 pounds per calendar quarter. [District Rule 2201]

**Verification:** The project owner/operator shall submit to the District written documentation that all necessary offsets have been acquired, or that binding contracts to secure such offsets have been entered into, at least 30 days prior to commencement of construction.

**AQ-63** SOx reductions may be utilized to offset PM-10 emission increases. The combined distance/interpollutant offset ratio shall be 2.2 pounds of SOx per 1.0 pound of PM10 if the reductions occurred within 15 miles of the proposed facility. The combined distance/interpollutant offset ratio shall be 2.5 pounds of SOx per 1.0 pound of PM-10 if the reductions occurred 15 miles or more from the proposed facility. [District Rule 2201]

**Verification:** The project owner/operator shall submit emission offset calculations to the District to confirm that the correct distance/interpollutant offset ratios have been used to determine SOx reductions to offset PM-10 emissions.

**SJVAPCD Permit No. UNIT N-4597-3-0 – 382 HP CATAPILLER MODEL 3306 ATAAC DIESEL-FIRED EMERGENCY IC ENGINE POWERING A 250 KW ELECTRICAL GENERATOR.**

**AQ-64** No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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

**AQ-65** No air contaminant shall be discharged into the atmosphere for a period or periods aggregating more than three minutes in any one hour which is as dark as, or darker than, Ringelmann 1 or 20 percent opacity. [District Rule 4101]

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

**AQ-66** Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

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

**AQ-67** The engine shall be equipped with positive crankcase ventilation (PCV) system or a crankcase emissions control device of at least 90 percent control efficiency. [District NSR Rule]

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

**AQ-68** Operation of the engine shall not exceed 11 hours per day. [District Rule 2201]

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

**AQ-69** The engine shall be operated only for maintenance, testing, and required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 200 hours per year. [District Rule 4102, 4701]

**Verification:** The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-40**.

**AQ-70** The exhaust stack shall not be fitted with a rain cap, or any other similar device, that impedes vertical exhaust flow. [District Rule 4102]

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

**AQ-71** NOx emissions shall not exceed 5.09 g/hp-hr. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-40**.

**AQ-72** CO emissions shall not exceed 1.13 g/hp-hr. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-40**.

**AQ-73** VOC emissions shall not exceed 0.14 g/hp-hr. [District Rule 2201]

**Verification:** The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-40**.

**AQ-74** PM10 emissions shall not exceed 0.13 g/bhp-hr based on U.S EPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102]

**Verification:** The project owner/operator shall provide records of compliance for the above condition as part of the quarterly reports of Condition **AQ-40**.

**AQ-75** Only CARB-certified diesel fuel containing not more than 0.05 percent sulfur by weight shall be used. [District Rules 2201 and 4102]

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

**AQ-76** The owner shall maintain records of hours of emergency and non-emergency operation. Records shall include the date, the number of hours of operation, the purpose of the operation (e.g., load testing, weekly testing, rolling blackout, general area power outage, etc.), and the sulfur content of the diesel fuel used. Such records shall be made available for District inspection upon request for a period of two years. [District Rules 2201 and 4701]

**Verification:** The project owner/operator shall make records available for inspection by representatives of the District, CARB and the Commission upon request. Records shall be retained for a period of two years.

**AQ-77** All records shall be retained for a minimum of 2 years, and shall be made available for District inspection upon request. [District Rule 1070]

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

**AQ-78** In order to enhance air quality in the City of Tracy and San Joaquin County, GWF will provide and implement a program of local $PM_{10}$ and ozone precursor emission reductions. Such emission reductions may be comprised of new mobile or stationary source emission reductions in the area, or purchase of locally generated banked emission reduction credits, or a combination of each. This condition is agreed to in order to address concerns raised by the public, and is not imposed to mitigate a significant impact under CEQA. Nothing in this condition shall require GWF to surrender or forfeit the emission reduction credits that have already been secured to offset the TPP.

Protocol: In coodination with the SJVUAPCD, the City of Tracy and San Joaquin County, GWF shall prepare an emission reduction plan comprised of emission reductions of $PM_{10}$ and ozone precursors created in San Joaquin County with preference being given to those generated in or near the City of Tracy. The plan shall be comprised of two parts:

(1) The identification and acquisition of emission reduction credits, (ERCs) located in San Joaquin County, with preference being given to ERCs in or near the City of Tracy, and

(2) The plan for creation of new emission reductions will provide actual combustion emission reductions in or near the City of Tracy during the high $PM_{10}$ season (September through January) and ozone precursors during the high ozone season (May through September). The emission reduction scheme under this plan shall include consideration of improvements to the Tracy Biomass Plant

operations, fireplace retrofits, and lawn mower and leaf blower conversions.

The plan shall also include a schedule of implementation. The emission reduction plan shall be sent to the appropriate agencies of San Joaquin County, the SJVUAPCD, and the City of Tracy for review and comment. GWF may revise the plan according to those comments. The plan, together with the comment, shall be forwarded to the CPM for review. After consideration of the comments by the CPM, GWF shall implement the plan in accordance with the schedule.

**Verification:** Ninety (90) days prior to commencement of commercial operation, GWF shall submit the plan for review by the City of Tracy, the County of San Joaquin, and the SJVUAPCD.

Forty-five (45) days prior to commercial operation, GWF shall submit the plan, addressing the comments received, to the CPM.

After review and comment by the CPM, and no later than 15 days prior to operation, GWF will address the issues raised by the CPM, and shall implement the plan in accordance with the implementation schedule. If amendments to the project license may be necessary to implement the plan, such amendments shall be accounted for in the implementation schedule, and applications shall be submitted in a timely manner.

**Reduction in Hours of Operation**

In order to further benefit local air quality, GWF will prepare and implement a plan for reduction in the actual operating hours for the TPP from the current maximum of 8,000 hrs/year. This condition is imposed in response to public concerns and is not required to mitigate a significant impact under CEQA. Nothing in this condition shall require GWF to surrender or forfeit emission reduction credits that have already been secured to offset the TPP.

Protocol: GWF will prepare a plan for reducing the operating hours of the plan from 8,000 hours annually to a lesser amount, not in conflict with its contractual obligation to the Department of Water Resources. The plan shall consider and evaluate both a reduction in the annual maximum operating hours, and maximum allowable hours of operation averaged over a number of years. The plan shall include a schedule for implementation. Such a plan shall be submitted to the CPM, the County of San Joaquin and the City of Tracy for review and comment.

After consideration the comments, GWF shall implement the plan according to the implementation schedule contained therein.

**Verification:** Sixty (60) days prior to commencement of commercial operation, GWF shall submit its plan for reduction in hours of operation for review and comment by the CPM, the City of Tracy, and the County of San Joaquin.

Thirty (30) days prior to the commercial operation, after consideration of the comments of the CPM, the City of Tracy, and the County of San Joaquin, GWF shall implement the plan in accordance with the schedule of implementation contained therein. If amendments to the project license may be necessary to implement the plan, such amendments shall be accounted for in the implementation schedule, and applications shall be submitted in a timely manner.

## B. PUBLIC HEALTH

The public health analysis supplements the previous discussion on air quality and looks at potential public health effects from project emissions of toxic air contaminants. In this analysis, the Commission considers whether such emissions will result in significant adverse public health impacts that violate standards for public health protection.[22]

### 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.[23] 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.[24] 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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[22] This Decision addresses other potential public health concerns in the following sections. The accidental release of hazardous materials is discussed in the **Hazardous Materials Management** and **Worker Safety and Fire Protection** sections. 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 **Soils and Water Resources** section. Hazardous and non-hazardous wastes are described in the **Waste Management** section.

[23] 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.

[24] 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 (Health and Safety Code, § 44360 et seq.). (Ex. 1, § 8.6.3.3.)

### 1. Health Risk Assessment

Applicant performed a health risk assessment that was reviewed by Staff and the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD or 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). (Ex. 1, § 8.6.3.3 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:

- Hazard identification in which each pollutant of concern is identified along with possible health effects;
- Dose-response assessment in which the relation between the magnitude of exposure and the probability of effects is established;
- Exposure assessment in which the possible extent of pollutant exposures from a project is established for all possible pathways by dispersion modeling; and
- Risk characterization in which the nature and the magnitude of the possible human health risk are assessed.

The risk assessment addresses three categories of health impacts: acute (short-term), chronic (long-term), and carcinogenic adverse health effects. (Ex. 4, pp. 5.6-2, 5.6-3; Ex. 1, § 8.6.3.4.)

Regulatory agencies use the hazard index method to assess the likelihood of acute or chronic non-cancer effects. In this approach, a 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. After calculating the hazard indices for the individual pollutants,[25] these indices are

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[25] The project's noncriteria pollutants that were considered in analyzing non-cancer effects include: ammonia (used for the SCR system for NOx control), acetaldehyde, benzene, 1,3 butadiene, ethylbenzene, formaldehyde, hexane, naphthalene, polycyclic aromatic hydrocarbons (PAHs), propylene, propylene oxide, toluene, xylene and diesel particulate. (Ex. 1, § 8.6, Table 8.6-2.)

added together to obtain a total hazard index. A total hazard index of 1.0 or less is considered an insignificant effect. (Ex. 4, pp. 5.6-3, 5.6-4; Ex. 1, § 8.6.3.6.)

Potential cancer risk is calculated by multiplying the exposure estimate by the potency factors for the individual carcinogens involved.[26] The exposure estimate is based on a worst-case scenario, which assumes a maximally exposed individual (MEI) at the point of highest toxicity 24 hours a day, 365 days a year over a 70-year period. (Ex. 1, § 8.6.3.5.) The greatest true exposure is likely to be at substantially lower than that calculated using the MEI assumption since no real person would be in the same spot for 70 years. (*Ibid*.) Further, annual emissions are calculated assuming simultaneous operation of all turbines at 100 percent load, which will not always occur under real operating conditions. (Ex. 1, § 8.6.3.7.) Given the conservatism in the various phases of this calculation process, the numerical estimates are designed to represent the upper bounds of cancer risk. In its analysis Applicant considered a potential cancer risk of one in a million as the level of significance. (Ex. 1, § 8.6.3.6.) Energy Commission staff considers a potential cancer risk of ten in a million as the level of significance.[27] (Ex. 4, p. 5.6-4.)

2. Potential Impacts

Sensitive receptors are located within a 3-mile radius of the site. The closest residences are approximately 0.4 miles west, 0.8 miles southeast, and 0.8 miles east of the project site. A residential development is located about 1.2 miles

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[26] The following noncriteria pollutants were considered with regard to possible cancer risk: acetaldehyde, benzene, 1,3 butadiene, formaldehyde, PAHs, propylene oxide and diesel particulates. (Ex. 1, § 8.6, Table 8.6-3.)

[27] Various state and federal agencies specify different cancer risk significance levels. Under the Air Toxics "Hot Spots" and the Proposition 65 programs, for example, a risk of 10 in a million is considered significant and used as a threshold for public notification. The significant risk level of 10 in a million is consistent with the level of significance adopted by the SJVUAPCD. (Ex. 4, p. 5.6-4.)

northeast of the site. Lammersville Elementary School is approximately 3 miles northwest of the site, and the Tracy Community Church School is about 3 miles northeast of the site. (Ex. 4, p. 5.6-6.)

Construction. Potential construction impacts may result from windblown dust created by site grading activities[28] and diesel emissions from heavy equipment and other vehicles. (Ex. 4, p. 5.6-8.)

No significant public health effects are expected during construction since construction-related emissions are temporary and localized. (Ex. 4, p. 5.6-9.) All predicted maximum concentrations of pollutants from construction vehicles and equipment will occur at locations along the immediate property boundary. (Ex. 4, p. 5-35.) As discussed in the **Air Quality** section, these impacts will be appropriately minimized and will include measures such as preparation and implementation of a Construction Fugitive Dust Mitigation Plan (Condition **AQ-C1**), and use of ultra low sulfur diesel fuel or installation of soot filters on construction vehicles (Condition **AQ-C2**).

Operation. TACs emitted in combustion byproducts from the project's exhaust stacks have the potential to cause adverse health effects. Emissions sources at the TPP include two fire pumps, an emergency diesel generator, and two gas turbines. (Ex. 4, p. 5.6-9.) Applicant calculated a *chronic* hazard non-cancer index of 0.0011 for the maximum impact location, which is approximately 7.5 miles northwest of the project site. (Ex. 4, p. 5.6-12.) Applicant calculated an *acute* non-cancer hazard index of 0.019 for the maximum impact location, which is approximately 2.2 miles southwest of the project site. (*Ibid*.) The evidence establishes that these indices are below the levels of potential health

[28] Exposure to toxic substances in contaminated soil disturbed during site preparation is a potential risk associated with construction. A Phase I Environmental Site Assessment (ESA) performed on behalf of Applicant showed no evidence of site contamination. (Ex. 4, p. 5.6-8.)

significance, indicating that no significant short or long-term adverse health effects would likely be associated with the project's noncriteria pollutants. (*Id*.)

The highest combined cancer risk was estimated at 0.18 in a million for the MEI at the maximum impact location, which was along the southwest project boundary. (Ex. 4, p. 5.6-12.) This risk value is below the potential health significance level. (*Ibid*.) **Public Health Table 2**, replicated below, shows the acute, chronic and cancer hazard indices.

**PUBLIC HEALTH Table 2**
**Operation Hazard/Risk**

| Type of Hazard/Risk | Hazard Index/Risk | Significance Level | Significant? |
|---|---|---|---|
| **ACUTE NONCANCER** | 0.019 | 1.0 | No |
| **CHRONIC NONCANCER** | 0.0011 | 1.0 | No |
| **INDIVIDUAL CANCER** | $0.18 \times 10^{-6}$ | $1.0 \times 10^{-5}$ | No |

Source: GWF 2001a, Table 8.6-4.
(Ex. 4, p. 5.6-12.)

3. Cumulative Impacts

When toxic pollutants are emitted from multiple sources within a given area, the cumulative or additive impacts of such emissions could lead to significant health impacts, even when such pollutants are emitted at insignificant levels from the individual sources involved. Analyses of such emissions have shown, however, that the peak impacts of such toxic pollutants are normally localized within relatively short distances from the source. Toxic pollutant levels beyond the point of maximum impact normally fall within ambient background levels.

The maximum cancer risk for the TPP facility is 0.18 in one million at the southwest project boundary. This maximum impact location occurs where

pollutant concentrations from TPP would theoretically be the highest. Even at this location, the evidence does not establish there is any significant change in lifetime risk to any person, and the incremental risk added by the TPP is so insignificant that it is essentially not measurable. (Ex. 17, p. 3.6-1). Modeled facility-related risks are lower at all other locations, and actual risks are expected to be much lower since worst-case estimates are based on conservative assumptions, and overstate the true magnitude of the risk expected. Therefore, the incremental impact of the additional risk posed by the TPP does not appear to be either significant or cumulatively considerable.

The worst-case long-term health impact from TPP (0.0011 hazard index) would be below the significance level of 1.0 at the location of maximum impact. At this level, any cumulative health impacts would be insignificant. As with cancer risk, long-term hazard would be lower at all other locations, and cumulative impacts at other locations would also be less than significant.

The Bay Area Air Quality Management District examined the issue of cumulative impacts from facilities affecting the same neighborhood. They concluded that elevated concentrations of toxic air contaminants from stationary sources tend to be quite localized, and that cumulative risks are likely to occur only when multiple facilities with substantial low-level emissions are immediately adjacent to, or very close to, one another. The proposed Tesla Power Plant is within a 6-mile radius of the TPP and thus cumulative impacts may occur as a result of both power plants operating. (The proposed East Altamont Energy Center is beyond the 6-mile radius.) Energy Commission staff prepared a cumulative impact analysis and concluded there are no significant impacts. (See the **Air Quality** section of this Decision for further discussion.)

4. Intervenors

Intervenor Sarvey expressed concern about the effect of startup/shutdown of the plant on criteria pollutants and TEC emissions. (3/7/02 RT, p. 226.) Staff found that during startup toxic contaminants were emitted in such low amounts and that the airborne concentration was so low, that even at the point of maximum impact, the risk would still be far lower than one in a million. (*Ibid*.)

## FINDINGS AND CONCLUSIONS

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

1. Normal operation of the Tracy Peaker Project (TPP) will result in the routine release of criteria and noncriteria pollutants that have the potential to adversely impact public health.

2. Emissions of criteria pollutants, which are discussed in the Air Quality section of this Decision, will be mitigated to levels consistent with applicable standards.

3. Applicant performed a health risk assessment, using well-established scientific protocol, to analyze potential adverse health effects of noncriteria pollutants emitted by the TPP.

4. There are sensitive receptors within a three-mile radius of the project site.

5. The point of maximum impact for toxic contaminant dispersion is located along the southwest project boundary. There are no sensitive receptors along the southwest project boundary.

6. Acute and chronic non-cancer health risks from project emissions during construction and operational activities are insignificant.

7. The potential risk of cancer from project emissions is insignificant.

8. Project emissions will not significantly contribute to adverse cumulative public health impacts.

The Commission therefore concludes that project emissions of noncriteria pollutants do not pose a significant direct, indirect, or cumulative adverse public health risk. All Conditions of Certification that control project emissions are specified in the **Air Quality** section of this Decision.

## C. WORKER SAFETY AND FIRE PROTECTION

Industrial workers are exposed to potential health and safety hazards on a daily basis. This analysis assesses whether the measures contained in Applicant's proposed health and safety plans will adequately protect workers during construction and operation of the power plant and whether the plans comply with all applicable laws, ordinances, regulations, and standards (LORS) designed to protect industrial workers. It also examines the adequacy of the fire protection and emergency service response proposed under the health and safety plans.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

#### 1. Potential Impacts to Worker Safety

During construction and operation, workers may be exposed to loud noises, falling equipment or structures, chemical spills, hazardous wastes, fires, gas explosions, moving equipment, trenches, confined space entry and egress problems, and electrical sparks and electrocution. (Ex. 1, Table 8.7-2; Ex. 4, pp. 5.13-3 through 5.13-4.) 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.[29] (Ex. 1, § 8.7.3.)

During construction workers may also be exposed to construction equipment diesel particulate (PM-10) exhaust at airborne concentrations exceeding the Proposition 65 warning level. If unmitigated, this exposure could pose an unacceptable risk to workers. However, Applicant is required by Condition **AQ-C3** to maintain diesel exhaust control through use of catalyzed diesel particulate

[29] 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 also, Ex. 4, pp. 5.13.1 through 5.13-3.)

filters on construction equipment rated greater than 100 horsepower output. Staff estimates that with implementation of Condition **AQ-C3** cancer risks due to diesel exhaust emissions will not exceed 10 in one million or the Cal/EPA Reference Exposure Level (REL). Staff therefore concludes that impacts will be mitigated to less than significant.[30] (Ex. 4, pp. 5.13-5, 5.13-7.)

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, §§ 8.7.3.1, 8.7.3.2; Ex. 4, pp. 5.13-6 through 5.13-10.) Separate Injury and Illness Prevention Programs, Fire Protection and Prevention Plans, and Personal Protective Equipment Programs will also 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 linear 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.*) The evidence establishes that Applicant has adequately outlined each of the above programs. Conditions **Worker Safety-1** and **Worker Safety-2** require the project owner to submit detailed programs and plans to the Compliance Program Manager prior to construction and/or operation, as appropriate. These conditions also require the project owner to consult with Cal/OSHA and the City of Tracy Fire Department to ensure that these programs comply with applicable LORS.

[30] If the REL or a cancer risk in excess of 10 in one million is exceeded, Staff recommends additional mitigation in the form of soot traps and low sulfur fuel, as well as outdoor air monitoring for particulates and appropriate personal protective equipment (i.e., respirators). (Ex., 4, p. 5.13-7.)

3. Fire Protection and Prevention Plans

The Tracy Peaker Project will rely on both on site fire protection systems and local fire protection services. Staff indicated that this proposal would comply with minimum fire protection requirements as required by all LORS, and that such compliance will assure protection from all fire hazards. (Ex. 4, pp. 5.13-4, 5.13-11.) The onsite fire suppression system is designed and operated in accordance with national Fire Protection Association standards and guidelines, and will provide the first line of defense for small fires. In the event of a major fire, the City of Tracy will provide fire support services, including trained firefighters and equipment for a sustained response. (*Ibid*.) First response time is estimated at 2-3 minutes from Station No. 94 at 16502 W. Schulte Road. (Ex. 4, p. 5.13-6.) The City of Tracy Fire Department will not require additional staffing or equipment in order to provide a first response to a project fire. (*Ibid*.) Staff has proposed Conditions **Worker Safety-1** and **Worker Safety-2** to ensure compliance with applicable LORS and that the City of Tracy Fire Department is provided with fire prevention plans prior to construction and operation of the project.

## FINDINGS AND CONCLUSIONS

Based on the uncontroverted 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, including an accident/injury prevention program, a personal protective equipment program, an emergency action plan, a fire protection and prevention plan, and other general safety procedures.

3. The project will rely on local fire protection services and onsite fire protection systems.

4. The Tracy Fire Department is responsible for providing fire protection and emergency services to the project.

5. Existing fire and emergency service resources will be adequate to meet project needs.

6. Implementation of the Conditions of Certification, below, 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 portions of APPENDIX A of this Decision.

The Commission therefore concludes that implementation of Applicant's Safety and Health Programs and Fire Protection measures 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 Injury and Illness Prevention Program, containing the following:

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

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

**Verification:** At least 30 days prior to the start of construction, the project owner shall submit to the CPM for review and approval a copy of the Project Construction Injury and Illness Prevention Program. The project owner shall provide a letter from the City of Tracy Fire Department stating that they have reviewed and found to be adequate the Construction Fire Protection and Prevention Plan Emergency Action Plan.

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

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

Protocol: The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the Cal/OSHA Consultation Service, for review and comment concerning compliance of the program with all applicable Safety Orders. The Operation Fire Protection Plan and the Emergency Action Plan shall also be submitted to the City of Tracy Fire Department 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 Operations and Maintenance Safety & Health Program. It shall incorporate Cal/OSHA Consultation Service's comments, stating that they have reviewed and accepted the specified elements of the proposed Operations and Maintenance Safety and Health Plan, and shall be found adequate by the City of Tracy Fire Department.

## D. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the Tracy Peaker Project will have a significant impact on public health and safety as a result of the use, handling or storage of hazardous materials at the facility. Related issues are addressed in the **Waste Management**, **Worker Safety** and **Traffic and Transportation** portions of this Decision.

Several locational 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 those factors in the analysis of potential impacts. (Ex. 1, § 8.12.2 et seq.)

### SUMMARY AND DISCUSSION OF THE EVIDENCE

#### 1. Potential Impacts

A variety of hazardous materials, including lubricating, electrical-insulating and fire suppression liquids, as well as several compressed gases, diesel fuel and solutions of hydroxide and aluminum sulfate, will be used and/or stored during operation and maintenance of the facility. However, none of these materials will be used or stored in excess of regulated threshold quantities under the California Accidental Release Prevention (Cal-ARP) Program[31] except aqueous ammonia. (Ex. 4, p 5.3-5.) Natural gas will be used in large quantities but not stored on site. (*Ibid*.)

[31] The Cal-ARP Program includes both federal and state programs established to prevent accidental release of regulated toxic and flammable substances. (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 that would require the filing of a Risk Management Plan under the Cal-ARP program. (Ex. 4, p. 5.3-2)

Since the previously listed hazardous substances, with the exceptions of aqueous ammonia and natural gas, will be stored, handled or used in smaller quantities, have lower toxicity, and/or lower potential environmental mobility, they do not create the potential for significant offsite impacts. (*Ibid*; Ex. 1, § 8.12.)

a. Aqueous Ammonia

A 29.5 percent aqueous ammonia solution will be used in controlling the emission of oxides of nitrogen (NOx) from the combustion of natural gas at the facility.[32] The use of aqueous ammonia significantly reduces the risks that would otherwise be associated with use of the more hazardous anhydrous form of ammonia, which is stored as a liquefied gas at high pressure. An accidental release of aqueous ammonia is typically much less violent and easier to contain than a release of anhydrous ammonia, which can rapidly introduce large quantities of the material to the ambient air, where it can be transported in the atmosphere and result in high downwind concentrations. The mass transfer from the free surface of spilled aqueous ammonia is much slower than from discharged gas (i.e., anhydrous ammonia), thus reducing the rate of emission to the atmosphere. Nevertheless, the accidental release of aqueous ammonia without proper mitigation can result in hazardous downwind concentrations of ammonia gas. (Ex. 4, p 5.3-6.)

To evaluate potential public health impacts in a "worst case scenario" resulting from an accidental release during truck unloading, Applicant performed an Offsite Consequence Analysis (OCA). (Ex. 1, § 8.12.4.1.) Applicant's OCA results for

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[32] In order to meet air quality permit requirements, the Tracy Peaker Project will use Selective Catalytic Reduction (SCR) to reduce nitrogen oxide ($NO_x$) emissions in the plant's exhaust gasses. In the SCR process, vaporized aqueous ammonia injected into the exhaust gas reacts with a catalyst to convert the $NO_x$ into inert water vapor and nitrogen. The aqueous ammonia proposed for use at the Tracy Peaker Project is a solution of 29.5% ammonia and 70.5% water. Solutions containing more than 20% ammonia are considered regulated materials exceeding reportable quantities defined in the California Health & Safety Code section 25532(j).

the maximum, worst case scenario estimated that ammonia concentrations would not exceed 75 parts per million and would be confined to the project site. (Ex. 1, § 8.12.4.5.) [33] Based on these modeling results, Applicant and Staff concluded that no significant offsite public health consequence will result from an accidental ammonia release.

The low risk of an accidental ammonia spill at the Tracy Peaker Project is largely the result of several design features. The truck unloading pad will include an underground secondary containment tank with adequate capacity to retain an entire truck-tank volume of 6,700 gallons plus the wash water used to dilute any spills. The aqueous ammonia pump system will have a spill-containment drain to this tank as well. The storage tank will be double walled, and the product storage and handling facilities will be equipped with continuous tank level monitors, temperature monitors, excess flow valves, and emergency block valves. (Ex. 1, § 8.12.3.3.) Consequently, many of the risks associated with ammonia use will be greatly reduced.

To ensure implementation of these design plans, Condition **HAZ-3**, requires the project owner to provide a Safety Management Plan for ammonia deliveries. **HAZ-4** requires that the storage tanks be constructed according to industry specifications.

Transportation of all hazardous materials, including aqueous ammonia, will comply with all applicable Laws, Ordinances, Regulations and Statutes (LORS). (Ex. 1, § 8.12.6.1; ex. 4, pp. 5.3-6 through 5.3-7; and see section entitled Traffic and Transportation.) **Conditions HAZ-5 and 6** address transportation of aqueous ammonia and other hazardous materials. **HAZ-6** provides that the only approved hazardous materials transportation route is from I-205 to Mountain House Parkway to Schulte Road to the project site.

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The proposed use of aqueous rather than anhydrous ammonia, the inclusion of significant engineering controls in the project design, the documented safety of transporting and handling aqueous ammonia, the results of the OCA, and Applicant's obligation to comply with all LORS, reinforced by the proposed Conditions of Certification, ensures that any potential adverse impacts from the transport of use of aqueous ammonia will be reduced to a level of insignificance.

b. Natural Gas

The project requires large amounts of natural gas, which creates a risk of both fire and explosion. (Ex. 1, § 8.12.5.) This risk will be reduced to an insignificant level through adherence to applicable codes and the development and implementation of effective safety management practices. (3/8/02 RT, pp. 15-17.) The National Fire Protection Association (NFPA) Code 85A requires: 1) the use of double block and bleed valves for fast gas shut-off; 2) automated combustion controls; and 3) burner management systems. These measures will significantly reduce the likelihood of an explosion. (Ex. 4, p. 5.3-7.)

Natural gas will not be stored onsite; rather it will be continuously delivered to the project by an existing, onsite PG&E gas pipeline via a short interconnecting pipeline. Construction of the pipeline according to existing LORS would reduce the risks associated with natural gas at the project to less than significant. (Ex. 4, p. 5.3-7.) Conditions **HAZ - 7, 8, and 9** require the applicant to document and communicate all compliance efforts with respect to the design, construction, corrosion protection, inspection, and operation of the natural gas pipeline.

## FINDINGS AND CONCLUSIONS

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

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[33] Staff considers the threshold significance level to be a one-time exposure to 75 parts per million (ppm) of ammonia gas.

1. The Tracy Peaker Project will use hazardous materials during construction and operation, including lubricating, electrical-insulating and fire suppression liquids, compressed gases, diesel fuel, hydroxide and aluminum sulfate solutions, aqueous ammonia and natural gas.

2. The major public health and safety hazards associated with these hazardous materials are the accidental release of aqueous ammonia and fire and explosion from natural gas.

3. The project owner will submit approved Safety Management Plans for ammonia delivery, an approved Hazardous Materials Business Plan, and an approved Risk Management Plan prior to delivery of hazardous materials to the site.

4. 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 the public heath and safety or the environment as the result of handling hazardous materials.

5. With implementation of the Conditions of Certification, below, the Tracy Peaker Project will comply with all applicable laws, ordinances, regulations, and standards related to hazardous materials management which are specified in Appendix A of this Decision.

**CONDITIONS OF CERTIFICATION**

**HAZ-1** The project owner shall not use any hazardous material in any quantity or strength not listed in AFC Tables 8.12-1, 8.12-2 and 8.12-3 unless approved in advance by the CEC Compliance Project Manager (CPM).

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

**HAZ-2** The project owner shall provide a Risk Management Plan (RMP) to the San Joaquin County Department of Environmental Health and the CPM for review at the time the RMP plan is first submitted to the U.S. Environmental Protection Agency (EPA). The project owner shall also provide a Hazardous Materials Business Plan (HMBP), which shall include the proposed building chemical inventory as per the UFC. The project owner shall include all recommendations of the San Joaquin County Department of Environmental Health and the CPM in both final plans. A copy of each of the final plans, including all comments, shall be provided to the San Joaquin County Department of Environmental Health and the CPM once EPA approves the RMP.

**Verification:** At least 30 days prior to the commencement of construction, the project owner shall provide the final plans listed above to the San Joaquin County Department of Environmental Health for review and comment, and to the CPM for approval.

**HAZ-3** The project owner shall develop and implement a Safety Management Plan (SMP) for the delivery of ammonia. The plan shall include procedures, protective equipment requirements, worker training, and process safety checklists. 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 60 days prior to the delivery of aqueous ammonia to the ammonia storage tanks, 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 and use facilities shall be designed to meet all applicable standards and regulations. At a minimum, the storage tank shall be double walled, the delivery area protected by a secondary containment tank under the truck unloading pad capable of containing an entire truckload of aqueous ammonia plus wash water, the ammonia pump station protected by a containment system, and the entire system protected by continuous tank monitors, temperature monitors, excess flow valves, and emergency block valves.

**Verification:** At least 60 days prior to delivery of aqueous ammonia to the storage tanks, the project owner shall submit final design drawings and specifications for the ammonia storage and use system to the CPM for review and approval.

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

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

**HAZ-6** The project owner shall direct all vendors delivering any hazardous materials to the site to use only the route approved by the CPM, which is from I-205 to Patterson Pass Road to Schulte Road to the TPP site.

**Verification:** .At least 60 days prior to receipt of any hazardous materials on site, the project owner shall submit to the CPM for review and approval, a copy of the letter to be mailed to the vendors. The letter shall state the required transportation route limitation.

**HAZ-7** The project owner shall require that the gas pipeline undergo a complete initial construction inspection followed by a detailed inspection after 30 years and each 5 years thereafter.

**Verification:** At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide a detailed plan to accomplish a full and comprehensive pipeline inspection plan to the CPM for review and approval.

**HAZ-8** 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.

**Verification:** At least 30 days prior to the initial flow of gas in the pipeline, the project owner shall provide a detailed plan for a full and comprehensive pipeline inspection following seismic events which might have had an impact on pipeline integrity. This plan shall be submitted to the CPM for review and approval, and updated and resubmitted to the CPM every five years.

**HAZ-9** The natural gas pipeline shall be designed to meet CPUC General Order 112-D&E and 58 A standards, or any successor standards. The pipeline will be designed to withstand seismic stresses. The project owner shall incorporate the following safety features into the design and operation of the natural gas pipeline: (1) butt welds will be x-rayed; (2) the pipeline will be pressure tested prior to the introduction of natural gas into the line; (3) the pipeline will be surveyed for leakage annually; (4) the pipeline route will be marked to prevent rupture by heavy equipment excavating in the area; (5) valves will be installed to isolate the line if a leak occurs; and (6) appropriate corrosion protection.

**Verification:** Prior to the introduction of natural gas into the pipeline, the project owner shall submit design and operation specifications of the pipelines to the CPM for review and approval.

## E. WASTE MANAGEMENT

The Tracy Peaker Project (TPP) will generate hazardous and nonhazardous 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 use only permitted treatment, storage, and disposal facilities. Registered hazardous waste transporters must handle the transfer of hazardous waste to disposal facilities.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site Excavation

The TPP will be constructed on a 10.3-acre, fenced site within a 40-acre parcel in an unincorporated portion of San Joaquin County. Applicant commissioned a Phase I Environmental Site Assessment (ESA) of the entire 40-acre parcel. The ESA indicates that no adverse environmental conditions exist at the proposed TPP site. (Ex. 1, Appendix G.)

2. Construction

a. Nonhazardous Wastes

During construction, the primary waste stream will be solid, nonhazardous materials such as paper, wood, glass, plastics, excess concrete, scrap metal, insulation, empty nonhazardous material containers, steel cuttings, packaging metal, absorbent materials and electrical wiring waste. Approximately 40 cubic

yards of these materials will be generated weekly during construction. Recycling of waste materials such as scrap metal, copper wire, empty containers and absorbent materials will be maximized. Approximately 20 cubic yards of wastes will be recycled every two to three weeks during construction. The remaining wastes will be placed in covered, temporary storage containers for periodic removal and disposal at an offsite Class II or III facility. (Ex. 1, § 8.13.2.1.)

Some nonhazardous wastewater, consisting of sanitary wastewater, equipment wash water and stormwater runoff, will also be generated during construction. Sanitary wastewater will be collected in portable chemical toilets and will be removed and disposed of periodically by licensed contractors. Equipment wash and flushing water will be collected and recycled, where feasible, or removed from the site for appropriate treatment and disposal. Stormwater runoff will be managed in accordance with best management practices.

b. Hazardous Wastes

Hazardous wastes generated during construction will include solvents, lubricating oils, paints, batteries, oily rags and absorbent, and combustion turbine lubricating flush oil. (Ex. 1, § 8.13.2.1; Ex. 4, p. 5.12-4.) Many of the hazardous wastes will be recycled. Those wastes requiring disposal will be classified, stored on site for fewer than 90 days, and then removed by a certified waste handling contractor for disposal at a licensed Class I hazardous waste treatment or disposal facility. (Ex. 1, § 8.13.2.1.)

3. Operation

a. Nonhazardous Wastes

Nonhazardous wastes that will be generated during project operation include sanitary wastewater, surface water runoff, rags, office wastes, empty containers,

broken parts and components, pallets and wood materials, and other solid wastes. Where appropriate, nonhazardous solid wastes will be recycled; the remaining wastes will be placed in appropriate storage containers and periodically removed for disposal at a Class III facility. (Ex. 1, § 8.13.2.2.)

Sanitary wastewater will be routed to the onsite septic tank/leach field. All other wastewater generated will be handled and disposed of according to standard procedures and applicable LORS. (*Ibid*.)

b. Hazardous Wastes

Hazardous wastes include spent air pollution control catalysts, waste oils, glycol, paints and thinners, used batteries, filters, spent sandblast media and nonempty aerosol cans, which if not recycled will be removed and transported by a certified hauler to a Class I facility. (Ex. 1, § 8.13.2.2.) The most significant hazardous wastes include approximately 525 cubic feet of waste catalyst from the removal of NOx and carbon monoxide from the turbine exhaust gasses every three to five years; approximately 7,400 gallons of used turbine lubricating oil replaced once each six years; and approximately 300 gallons per year of waste oil. (*Ibid*; Ex. 4, 5.12-5.)

The majority of the hazardous wastes, such as used oils, solvents, batteries, and the spent SCR and CO catalysts, can be recycled. The remaining wastes will require off-site disposal. Those wastes requiring disposal will be classified, stored on site for fewer than 90 days, and then removed by a certified waste handling contractor for disposal at a licensed Class I hazardous waste treatment, storage or disposal facility. (Ex. 1, § 8.13.2.2; Ex. 4, p. 5.12-5.) To help ensure the use of appropriate hazardous waste disposal facilities, Condition **WASTE-1** requires the project owner to notify Staff of any known enforcement actions against hazardous waste facilities or companies used for project wastes.

Applicant's Table 8.13-2, replicated below, lists the types and estimated amounts of the hazardous waste that will be generated during operation of the project.

[Insert TABLE 8.13-2 **Hazardous Wastes Generated During Operations and Maintenance Phase** from the AFC here]

4. Potential Impacts on Waste Disposal Facilities

Nonhazardous waste that is not recycled will be disposed of at one of the regional Class II or III waste disposal facilities. (Ex. 1, § 8.13.3.1.) Both Applicant and Staff agree that disposal of project-related nonhazardous solid wastes will only slightly reduce the available capacity of the local Class II or III waste disposal facilities used by the project, and that such disposal will not have any significant direct or cumulative impacts on those facilities, particularly with inclusion of recycling efforts. (Ex. 4, pp. 5.12-6, 5.12-7; Ex. 1, § 8.13.3.4.)

Three Class I disposal facilities in California, i.e., Chemical Waste Management Kettleman Hills in King's County, Safety-Kleen Environmental Services (formerly Laidlaw Environmental Services) in Kern County, and Safety-Kleen Environmental Services (formerly Laidlaw Environmental Services) in Imperial County, have permits to accept hazardous waste. In total, there is in excess of 20 million cubic yards of remaining hazardous waste disposal capacity at these facilities. (Ex. 1, § 8.13.3.2.) Staff concluded that project-related hazardous waste will not significantly impact the capacity of any of California's Class I disposal facilities. (Ex. 1, § 8.13.3.4.)

The waste management and disposal measures proposed by the Applicant will comply with all applicable federal and state laws, ordinances, regulations, and standards. Staff therefore does not expect any significant impacts to the public or the environment from the generation, transport or disposal of project-related hazardous wastes. (Ex. 4, p. 5.12-8; Ex. 1, § 8.13.) However, since final facility

design and operational procedures may impact the amounts and types of wastes ultimately generated, Condition **WASTE-2** requires the project owner to submit waste management plans for project construction and operation to Staff. The plans must include waste mitigation measures designed to ensure the project will not result in significant impacts to human health or the environment.

## FINDINGS AND CONCLUSIONS

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

1. The project will generate hazardous and nonhazardous wastes during construction and operation.

2. Nonhazardous wastes that cannot be recycled will be deposited at a Class II or III waste disposal facility.

3. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to an authorized hazardous waste management facility.

4. Disposal of project wastes will not result in any significant direct or cumulative impacts to existing waste disposal facilities.

5. 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** 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-2** Prior to the start of construction and operation, the project owner shall prepare and submit to the CPM, for review and approval, a waste management plan for all wastes generated during construction and then operation and maintenance of the facility, respectively. The project owner shall submit any required revisions within 20 days of notification by the CPM (or mutually agreed upon date). In the Annual Compliance Reports, the project owner shall document the actual waste management methods used during the year compared to planned management methods. The plans shall contain, at minimum, the following:

- A description of all waste streams, including projections of frequency, amounts generated, and hazard classifications;

- Methods of managing each waste, including but not limited to: waste testing methods to assure correct classification, waste segregation and storage procedures and facilities, treatment methods and companies contracted with for treatment services, methods of transportation and companies contracted with for transportation, disposal requirements and sites, employee hazmat training, employee protection, and recycling and waste minimization/reduction plans. These methods must include, but not be limited to, the eight Waste Management Mitigation Measures listed by the applicant in section 8.13.4 of the AFC.

- Methods to be put into place to audit and ensure continuing compliance with the Workplan and all applicable LORS.

**Verification:** No less than 30 days prior to the start of construction, the project owner shall submit the construction waste management plan to the CPM for review and approval. The operation waste management plan shall be submitted to the CPM for review and approval no less than 30 days prior to the start of project operation.

**WASTE-3** The project owner shall have a Registered Professional Engineer or Geologist, with experience in remedial investigation and feasibility studies, available for consultation during soil excavation and grading activities.

**Verification:** At least 30 days prior to the start of any earth moving activities , the project owner shall submit the qualifications and experience of the Registered Professional Engineer or Geologist contracted for consultation to the CPM for approval.

**WASTE-4** 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 the 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 Central Valley Regional Water Quality Control Board, the San Joaquin County Environmental Health Department (CUPA), and the Sacramento 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.

**WASTE-5** Both the project owner and, if necessary, its construction contractor shall obtain unique hazardous waste generator identification numbers from the Department of Toxic Substances Control (DTSC) in accordance with DTSC regulatory authority.

**Verification:** The project owner and its construction contractor shall keep copies of the identification numbers on file at the project site and notify the CPM via the monthly compliance report of their receipt.

**WASTE-6** Prior to any earth moving activities, employees shall receive hazardous-waste-related training that focuses on recognition of potential contaminated soil and/or groundwater; and contingency procedures to be followed to protect worker safety and public health.

**Verification:** The project owner shall notify the CPM via the monthly compliance report of completion of the hazardous waste training program.

# V. ENVIRONMENTAL ASSESSMENT

Under its statutory mandate, the Commission must evaluate a project's potential effect upon the environment. The Commission reviews the individual topics of biological resources, soil and water resources, cultural resources, and geological/paleontological resources to determine 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 ancillary facilities, assesses the potential for impacts on biological resources, and determines the adequacy of proposed mitigation measures to ensure compliance with all applicable laws, ordinances, regulations, and standards.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site and linear facility routes are located in the northern San Joaquin Valley, immediately southwest of the City of Tracy. The area surrounding the project site is predominately agricultural/rangeland, with commercial/industrial development to the north and residential development to the east (City of Tracy). Historically the San Joaquin Valley contained many natural habitats that supported a variety of plant and animal species. However, agricultural activities and urbanization have reduced these habitats to small fragmented areas scattered throughout the valley. Despite this habitat loss and fragmentation, several special status plant and animal species are known to, or may occur in the

project vicinity. (Ex. 17, p. 3.2-3.) A list of these species is presented in **Table 1**, replicated below from the Supplement to Staff Assessment.

## BIOLOGICAL RESOURCES - Table 1

**Sensitive Species Known to Occur in the Project Vicinity**

(GWF 2001a)

| Sensitive Plants | Status* |
|---|---|
| Large-flowered fiddleneck (*Amsinckia grandiflora*) | FE/CE/CNPS 1B |
| Alkali milk-vetch (*Astragalus tener* var. *tener*) | FSC/CNPS 1B |
| Heartscale (*Atriplex cordulata*) | FSC/CNPS 1B |
| Brittlescale (*Atriplex depressa*) | FSC/CNPS 1B |
| San Joaquin spearscale (*Atriplex joaquiniana*) | FSC/CNPS 1B |
| Big-scale balsamroot (*Balsamorhiza macrolepis* var. *macrolepis*) | FSC/CNPS 1B |
| Big tarplant (*Blepharizonia plumosa* ssp. *Plumosa*) | FSC/CNPS 1B |
| Congdon's tarplant (*Hemizonia parryi* ssp. *congdonii*) | FC/CNPS 1B |
| Slough thistle (*Cirsium crassicaule*) | FSC/CNPS 1B |
| Hipsid bird's-beak (*Cordylanthus mollis ssp. hispidus*) | FSC/CNPS 1B |
| Palmate-bracted bird's-beak (*Cordylanthus palmatus*) | FE/CE/CNPS 1B |
| Interior California larkspur (*Delphinium californicum ssp. interius*) | FSC/CNPS 1B |
| Recurved larkspur (*Delphinium recurvatum*) | FSC/CNPS 1B |
| Contra Costa buckwheat (*Eriogonum truncatum*) | CNPS 1A |
| Diamond-peteled California poppy (*Eschscholzia rhombipetala*) | FSC/CNPS 1B |
| Fragrant fritillary (*Fritillaria lilacea*) | FSC/CNPS 1B |
| Boggs Lake hedge-hyssop (*Gratiola heterosepala*) | FSC/CE/CNPS 1B |
| Diablo helianthella (*Helianthelle castanea*) | FSC/CNPS 1B |
| Santa Cruz tarweed (*Holocarpha macradenia*) | FT/CE/CNPS 1B |
| Contra Costa goldfields (*Lasthenia conjugens*) | FE/CNPS 1B |
| Showy madia (*Madia radiata*) | FSC/CNPS 1B |
| Colusa grass (*Neostapfia colusana*) | FT/CE/CNPS 1B |
| Bearded popcornflower (*Plagiobothrys hystriclus*) | CNPS 1A |
| Adobe sanicle (*Sanicula maritima*) | FSC/CR/CNPS 1B |
| Wright's tricoronis (*Trichoronis wrightii var. wrightii*) | CNPS 2 |
| Showy Indian clover (*Trifolium amoenum*) | FE/CNPS 1B |
| Cape-fruited tropdocarpum (*tropidocarpum capparideum*) | CNPS 1A |
| Geene's tuctoria (*Tuctoria greenei*) | FE/CNPS 1B |

| Sensitive Wildlife | Status* |
|---|---|
| Western spadefoot (*Scaphiopus Hammondii*) | CSC |
| California horned lizard (*Phrynosoma coronatum frontale*) | CSC |
| California red-legged frog (*Rana aurora draytonii*) | FT/CSC |
| California tiger salamander (*Ambystoma californiense*) | FPT/CSC |
| California horned lark (*Eremophila alpestris actia*) | |
| Western burrowing owl (*Athene cunicularia*) | FSC/CSC |
| Loggerhead shrike (*Lanius ludovicianus*) | CSC |
| LeConte's thrasher (*Toxostoma lecontei*) | CSC |
| Tricolored blackbird (*Agelaius tricolor*) | CSC |

| | |
|---|---|
| San Joaquin pocket mouse (*Perognathus inornatus*) | CSC |
| American badger (*Taxidae taxus*) | CSC |
| San Joaquin kit fox (*Vulpes macrotis mutica*) | FE/CT |

*STATUS LEGEND – FE = Federally listed Endangered; FT = Federally listed Threatened; FPT = Federal proposed Threatened; FSC = Federal Species of Concern; California Native Plant Society (CNPS) List 1A = Plants presumed extinct in California; List 1B = Rare and endangered plants of California and elsewhere; List 2 = Plants rare, threatened, or endangered in California but more common elsewhere; CE = State listed Endangered, CT = State listed Threatened; CR = State listed Rare; and CSC = State Species of Special Concern.

As indicated in **Table 1** above, several plant and animal species listed under state and/or federal Endangered Species Acts potentially occur in the project region. Of these species, however, only two, the federally endangered and state threatened San Joaquin kit fox (*Vulpes macrotis mutica*), and the federal and state species of concern Western burrowing owl (*Athene cunicularia*) are expected to potentially occur within the Tracy Peaker Project (TPP) study area. (Ex. 17, p. 3.2-6.)

Other species of potential concern in the project region include the California red-legged frog (*Rana aurora draytonol*) and raptors and other birds. (Ex. 17, p. 3.2-13.)

1. Potential Impacts And Mitigation

<u>San Joaquin Kit Fox.</u>

Historically, the project site has been dominated by intensely managed agricultural activities and is therefore considered only a marginal habitat for the kit fox. However, the kit fox is known to enter these marginal habitats when more optimal habitats are not available. [34] Surveys in May 2001 found three potential

[34] Projects in developed areas typically have minimal impact on sensitive biological resources because of lack of suitable habitat on the site. Such projects are evaluated for the indirect impacts they could have on any surrounding areas that remain in natural conditions and support biological resources. (Ex. 17, p. 3.2-10.)

kit fox dens within 500 feet of the site, and five within 1,000 feet. Because of the large home range of kit fox (1 to 2 miles), other dens and foxes may be present just outside of the survey area and within traveling range. (Ex. 17, 3.2-10.)

The Delta-Mendota canal area, just southwest of the plant site, and the Union Pacific Railroad to the north, have been identified as potential migration corridors for the kit fox by the San Joaquin Kit Fox Panning and Conservation Team.[35] The Delta-Mendota Canal area and areas along the access road to the site also have some potential to support kit fox foraging and denning. (Ex. 17, p. 3.2-10.)

Staff anticipates that the United States Fish and Wildlife Service (USFWS) will require an incidental take permit and mitigation for construction of the power plant and ancillary facilities in southwestern San Joaquin County. Applicant proposes to gain coverage for incidental take from the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP 2000) and San Joaquin County. In order to obtain an incidental take permit, Applicant must incorporate Incidental Take Minimization Measures into its planning. Such measures, which are designed to minimize impacts to important kit fox corridors, include siting the TPP as far as feasible from the Delta Mendota Canal and the Union Pacific Railroad, and restoring the surrounding areas to annual grasslands or valley oak woodlands with only a few trees. (Ex. 17, p. 3.2-11.) These requirements have been incorporated in Conditions **BIO-10** and **BIO-11. BIO-10** requires the power plant facilities to be sited as far as feasible from migration corridors and establishes a 300 foot buffer zone. It also requires installation of a fence in such a manner as to exclude small mammals such as the kit fox. **BIO-11** requires landscaping of the area in a kit-fox friendly manner.

The USFWS expressed concerned that the large trees (Eucalyptus) proposed in Applicant's original landscaping plan could provide nesting habitat and/or

[35] The San Joaquin Kit Fox Panning and Conservation Team, is a partnership of kit fox experts and federal, state and local jurisdictions. The U.S. Fish and Wildlife Service (USFWS) is a participant on the Team. (Ex. 17, p. 3.2-4.)

perching points for raptors along the kit fox migration corridor, which could increase the potential for predation of young kit fox. The USFWS was also concerned that conversion of agricultural lands to a dense tree and shrub habitat would not be compatible with kit fox migration because kit fox are a grassland species. Applicant has agreed to change the landscaping plan to reduce the density of trees and shrubs. It has also agreed to remove large trees from the canal side of the facility where possible, and to consider using tree species that are not conducive to raptor use (thin, drooping branches, etc.). (*Ibid*.) Condition **BIO-11** provides for review of Applicant's revised landscaping plan by Staff to ensure that it minimizes the threat to kit fox to the maximum extent possible.

Applicant will also provide habitat compensation funds to mitigate the TPP's potential impacts on the San Joaquin kit fox and other sensitive species found in the region. The following table, replicated from Staff's **Biological Resources Table 2**, identifies the TPP's direct acreage impacts to wildlife habitat.

**Biological Resources Table 2**
**Estimates of Temporary and Permanent Habitat Losses**
(GWF 2001b)

| Project Feature | Temporary Disturbance (Acres) | Permanent Disturbance (Acres) |
|---|---|---|
| Access Road | 1.5 | 1.9 |
| Water Supply Line | 0.6 | 0.0 |
| Power Plant Fenced Area | 0.0 | 9.0 |
| PG&E Switchyard Fenced Area | 0.0 | 1.3 |
| Construction laydown/Parking | 5.2 | 0.0 |
| **Total** | **7.3** | **12.2** |

Source: Ex. 17, p. 3.2-11, Staff's Biological Resources Table 2

As indicated in **Table 2**, the TPP will permanently convert 12.2 acres of land and temporarily disturb 22.4 acres of land. The SJMSCP Master Incidental Take Permit conditions require a project to replace each acre of agricultural habitat land converted from Open Space use on a 1:1 basis. Thus, under SJMSCP permitting, Applicant will be required to purchase 34.6 acres of land or pay a fee of $58,474.00 ($1,690 x 34.6 acres) to the San Joaquin Council of Governments,

Inc., (SJCOG) the overseeing body for the SJMSCP, for acquisition of an equivalent number of acres. The land purchased by SJCOG will be used to provide movement corridors and other wildlife habitat values. Thus, the loss of 34.6 from construction of the TPP is unlikely to cause harm to biological resources. (Ex. 17, 3.2-17.) (*Ibid*.) Condition **BIO-9** ensures purchase of a specified amount of habitat compensation acreage under the SJMSCP. (Ex. 17, p. 3.2-12.)

Additional mitigation measures include hiring of a Designated Biologist to perform pre-activity wildlife surveys (Conditions **BIO-1, BIO-2, BIO-3** and **BIO-7**), development of a worker Environmental Awareness Program (Condition **BIO-4**), flagging of avoidance areas, den excavation and replacement, restrictions on construction personnel regarding trash, pets, and firearms, and preventing wildlife losses during excavation and pipe laying activities (Conditions **BIO-6** and **BIO-8**). Condition **BIO-5** requires the project owner to provide a final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) prior to the start of any project-related ground disturbance activities. The BRMIMP will incorporate all mitigation, monitoring, and compliance conditions identified in this Decision. Condition **BIO-8** requires compliance with the measures outlined in *Standardized Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance.* Implementation of the mitigation summarized above will mitigate losses to San Joaquin kit fox to less than significant levels. (Ex. 17, p. 3.2-12.)

<u>Western Burrowing Owl</u>

Burrowing owls are known to inhabit the area surrounding the TPP. The Delta-Mendota Canal and Union Pacific Railroad embankments have been colonized by ground squirrels, and burrowing owl often inhabit the burrows of ground squirrels. (Ex. 17, p. 3.2-6.) Although no owls or potential burrowing owl nesting sites were found on the project site, if construction occurs during the nesting

season (February to July), there is a potential for disturbance to burrowing owl. Pre-construction surveys and avoidance measures will be incorporated to reduce impacts to less than significance. (Ex. 17, p. 3.2-12.) Conditions **BIO-6** and **BIO-7** require implementation of these measures.

The evidentiary record indicates that the TPP habitat compensation package for the San Joaquin kit fox will also benefit the Western burrowing owl since the berms where they forage are located along the kit fox corridors. (Ex. 17, pp. 3.2-10, 3.2-11.)

California Red-Legged Frog

There are no recorded occurrences of California red-legged frog within the project site or within one mile of the site, and no frogs or habitat were seen during May 2001 surveys. (Ex. 17, p. 3.2-13.) However, a "core area" for California red-legged frog, a federally listed threatened species and state species of special concern, is located 1.5 miles south of the TPP in the Corral Hollows watershed; therefore an evaluation was done to determine whether the project could potentially affect the species. (Ex. 17, p. 3.2-4.)[36] The critical habitat at Corral Hollows is isolated physically and hydrologically from the TPP site. Therefore, no impacts to this species or its critical habitat are anticipated as a result of the project. (Ex. 17, p. 3.2-13)

Raptors and Other Birds

Raptors, such as barn owl and great horned owl, likely forage on and near the site. The most abundant prey source, ground squirrels, are concentrated in the berms along the canal. The project will be on fallow agricultural land and will not permanently impact the berms. The temporary loss of 22.4 acres of flat

[36] Core areas represent the areas where restoration of habitat is most feasible, where pilot reestablishment efforts are most likely to have success, and where natural recolonization is expected. (Ex. 17, p. 3.2-4.)

agricultural land, and the permanent loss of 12.2 acres is unlikely to cause a significant loss to these wide-ranging species. (Ex. 17, p. 3.2-13.)

Bird species that provide hunting opportunities for sportsmen such as mourning dove (*Zenaida macroura*), and ring-necked pheasant (*Phasianus colchicus*) are known to occur in the vicinity of the project and may occasionally occur on the project site. (Ex. 17, p. 3.2-6.) The TPP will include two 100-foot tall, 16-foot-diameter combustion exhaust stacks. Exhaust stacks pose a collision hazard for birds. Most bird collisions/deaths occur during migration in inclement weather. The site and surrounding areas do not contain attractive bird habitat (e.g., freshwater marsh or ponds). Therefore, the exhaust stacks (lighted or unlighted) are unlikely to increase bird collisions or otherwise cause harm to wildlife. Accordingly, Staff did not recommend any mitigation.

Intervenor Sarvey expressed concern in the form of written testimony by Dr. Smallwood and questioning at hearing (3/6/02 RT, pp. 133, 167) that a special status [bird] species may have been missed. However, both Applicant and Staff indicated they had done a comprehensive search for special status species and felt their list was complete. Staff also indicated it had attempted to account for birds not physically present on the site at the time of the survey. (3/6/02, pp. 125, 156, 167.)

Air, Water and Vegetation

No significant air impacts are anticipated from operation of the project since emissions will be below a threshold set by the U.S. Environmental Protection Agency for Prevention of Significant Deterioration and emissions will be controlled by Applicant to prevent significant changes to ambient air quality. (Ex. 17, p. 3.2-13.)

The project will receive water from a turnout on the Delta-Mendota Canal. The Canal does not contain any special status fish. However, the project will be screened by design, which will reduce impacts to fish and invertebrates. (*Ibid*.)

There is little native vegetation in the vicinity of the project site. (Ex. 17, p. 3.2-18.) The site itself has historically been used to grow a variety of irrigated crops. Most of the transmission line corridor traverses rangeland with natural vegetation made up of non-native plants. (Ex. 17, p. 3.2-6; Ex. 1, § 8.2.2.2.) Construction of the TPP could result in the introduction of invasive plant species. However, the widespread use of herbicides associated with agricultural practices surrounding the TPP site will likely limit the spread of invasive plant species in the vicinity of the TPP. (Ex. 17, p. 3.2-6, 3.2-18.)

3. Cumulative Impacts

Two power plants, East Altamont Energy Center and FPL Tesla Power Project, are under development in the vicinity of the TPP. These plants do not use the same water supply or discharge facility, and are geographically isolated from the proposed plant, but do contribute air pollutants to the same air basin. There are no known sensitive habitats around the TPP area that could be impacted by power plant emissions. Therefore, Staff does not anticipate any overlapping, or additive, impacts to biological resources from water pollution, traffic, noise, lighting, or air quality from the three projects. (Ex. 17, p. 3.2-18.)

4. Closure

Sometime in the future, the TPP power plant and ancillary facilities will either experience a planned closure, or may be unexpectedly (either temporarily or permanently) closed. The AFC did not include a discussion of the impacts facility closure could have on biological resources. When facility closure occurs, it must be done in such a way as to protect the environment and public health and

safety. These issues will be addressed as a part of the "on-site contingency plan" which will be developed by the project owner, and approved by the Energy Commission Compliance Project Manager. (See further discussion under "General Conditions for Facility Closure" in the **Compliance and Closure** section of this Decision.) ). Facility Closure mitigation measures will also be included in the BRMIMP prepared by Applicant. Staff recommends implementation of these closure measures in the event the Commission decides the plant should be permanently closed. (Ex. 17, p. 3.2-20.)

## FINDINGS AND CONCLUSIONS

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

1. No special status species exist on the project site.
2. Sensitive species found in the project region include the San Joaquin kit fox and the Western burrowing owl.
3. Project specific direct impacts will result in the permanent loss of 12.2 acres and the temporary loss of 22.4 acres of sensitive habitat for the San Joaquin kit fox and other sensitive species in the region.
4. Habitat compensation ratios are 1:1 for conversion of agricultural habitat land from open space use, resulting in total compensation acreage of 34.6 acres.
5. Applicant will provide habitat compensation funds to the San Joaquin Council of Governments, Inc., in an amount no less than $58,474.00 ($1,690 x 34.6 acres) to purchase 34.6 acres of habitat in the San Joaquin Valley.
6. The TPP'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.
7. With implementation of the mitigation measures identified in the evidentiary record and the Conditions of Certification list below, the TPP will conform with all applicable laws, ordinances, regulations, and

standards related to biological resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes 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** Site and related facilities (including any access roads, transmission lines, water and gas lines, storage areas, staging areas, pulling sites, substations, wells, etc.) mobilization activities shall not begin until an Energy Commission CPM-approved Designated Biologist is available to be on site.

Protocol: 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;
3. At least one year of field experience with biological resources found in or near the project area; and
4. An ability to demonstrate to the satisfaction of the CPM the appropriate education and experience for the biological resources tasks that must be addressed during project construction and operation.

If the CPM determines the proposed Designated Biologist to be unacceptable, the project owner shall submit another individual's name and qualifications for consideration. If the approved Designated Biologist needs to be replaced, the project owner shall obtain approval of a new Designated Biologist by submitting to the CPM the name, qualifications, address, and telephone number of the proposed replacement. No habitat disturbance will be allowed in any designated sensitive areas until the CPM approves a new Designated Biologist and the new Designated Biologist is on site.

**Verification:** At least 30 days prior to the start of any site and related facilities mobilization activities, the project owner shall submit to the CPM for

approval the name, qualifications, address, and telephone number of the individual selected by the project owner as the Designated Biologist. If a Designated Biologist is replaced, the information on the proposed replacement as specified in the Condition must be submitted in writing at least10 working days prior to the termination or release of the preceding Designated Biologist.

**BIO-2** The CPM approved Designated Biologist shall perform the following during any site and related facilities mobilization, construction and operation activities:

1. Advise the project owner's Construction/Operation Manager, supervising construction and operations engineer on the implementation of the biological resources Conditions of Certification;
2. 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; and
3. Notify the project owner and the CPM of any non-compliance with any biological resources Condition of Certification.

**Verification:** During site and related facilities mobilization and construction, the Designated Biologist shall maintain written records of the tasks described above, and summaries of these records shall be submitted along with the Monthly Compliance Reports to the CPM. During project operation, the Designated Biologist shall submit record summaries in the Annual Compliance Report.

**BIO-3** The project owner's Construction/Operation Manager shall act on the advice of the Designated Biologist to ensure conformance with the Biological Resources Conditions of Certification.

Protocol: The project owner's Construction/Operation Manager shall halt, if necessary, all construction or operation activities in areas specifically identified by the Designated Biologist as sensitive to assure that potential significant biological resource impacts are avoided.

The Designated Biologist shall:

1. Inform the project owner and the Construction/Operation Manager when to resume construction or operation, and
2. Advise the Energy Commission CPM if any corrective actions are needed or have to be instituted.

**Verification:** Within two working days of notification by the Designated Biologist of non-compliance with a Biological Resources Condition of Certification or a halt of construction or operation, the project owner shall notify the CPM by telephone of the circumstances and actions being taken to resolve the problem

or the non-compliance with a condition. For any necessary corrective action 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 in which each of its employees, as well as employees of contractors and subcontractors who work on the project or related facilities during site mobilization, construction and operation, are informed about sensitive biological resources associated with the project.

Protocol: Worker Environmental Awareness Program 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; and
5. Identify whom to contact if there are further comments and questions about the material discussed in the program.

The specific program can be administered by a competent individual(s) acceptable to the Designated Biologist.

Each participant in the on-site Worker Environmental Awareness Program shall sign a statement declaring that the individual understands and shall abide by the guidelines set forth in the program materials. The person administering the program shall also sign each statement.

**Verification:** At least 60 days prior to the start of any site and related facilities mobilization, the project owner shall provide two copies of the Worker Environmental Awareness Program and all supporting written materials prepared by the Designated Biologist and the name and qualifications of the person(s) administering the program to the CPM for approval. The project owner shall state in the Monthly Compliance Report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. The signed statements for the mobilization and construction phase shall be kept on file by the project owner and made available for examination by the CPM 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 to the CPM for review and approval a copy of the final Biological Resources Mitigation Implementation and Monitoring Plan (BRMIMP) and shall implement the measures identified in the plan. Any changes to the adopted BRMIMP must be made by the Energy Commission staff, in consultation with SJCOG, Inc.

Protocol: The final BRMIMP shall identify:

1. All biological resources mitigation, monitoring, and compliance measures recommended by the Applicant, as well as those contained in the BIO-Condition of Certification (and other mitigation requirements);
2. All mitigation measures provided in the *Standardized Recommendations for Protection of the San Joaquin Kit fox Prior to or During Ground Disturbance* (USFWS 1999);
3. All Incidental take minimization measures as specified by SJCOG (SJCOG, Inc 2001);
4. All sensitive biological resources to be impacted, avoided, or mitigated by project construction, operation and closure;
5. All required mitigation measures for each sensitive biological resource;
6. Required habitat compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources or permits obtained;
7. A detailed description of measures that will be taken to avoid or mitigate temporary disturbances from construction activities;
8. All locations, on a map of suitable scale, of laydown areas and areas requiring temporary protection and avoidance during construction;
9. Aerial photographs of all areas to be disturbed during project construction activities - one set prior to any site mobilization disturbance and one set subsequent to completion of mitigation measures. Include planned timing of aerial photography and a description of why times were chosen;
10. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
11. Performance standards to be used to help decide if/when proposed mitigation is or is not successful;
12. All performance standards and remedial measures to be implemented if performance standards are not met;
13. A discussion of biological resources related facility closure measures; and

14. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval.

**Verification:** At least 60 days prior to start of any site or related facility mobilization activities, the project owner shall provide the CPM with two copies of the draft final version of the BRMIMP for this project, and provide copies to the SJCOG, Inc. The CPM, in consultation with SJCOG, Inc., will determine the plan's acceptability within 45 days of receipt. The project owner shall notify the CPM no less than five working days before implementing any modifications to the BRMIMP to obtain CPM approval.

**Verification:** Within 30 days after completion of project construction, the project owner shall provide 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 construction phase, and which mitigation and monitoring plan items are still outstanding.

**BIO-6** The project owner will implement the mitigation measures identified below unless the mitigation measures conflict with mitigation required by the SJCOG, Inc. incidental take minimization measures.

Protocol: The project owner will:

1. Site transmission line poles, access roads, pulling sites, and storage and parking areas to avoid sensitive resources whenever possible;
2. Avoid all wetlands;
3. Design and construct transmission lines and poles to reduce the likelihood of electrocutions of large birds;
4. Implement a Worker Environmental Awareness Program;
5. Clearly mark construction area boundaries with stakes, flagging, and/or rope or cord to minimize inadvertent degradation or loss of adjacent habitat during facility construction/modernization. All equipment storage will be restricted to designated construction zones or areas that are currently not considered sensitive species habitat;
6. Provide a Designated Biologist to monitor all activities that may result in incidental take of listed species or their habitat;
7. Fence and provide wildlife escape ramps for construction areas that contain steep-walled holes or trenches. Fence will be hardware cloth or similar materials that are approved by USFWS and CDFG;
8. Inspect trenches each morning for entrapped animals prior to the beginning of construction. Construction will be allowed to begin only after trapped animals are able to escape voluntarily;

9. Inspect all construction pipes, culverts, or similar structures with a diameter of 4-inches or greater for sensitive species (such as kit foxes) prior to pipe burial. Pipes to be left in trenches overnight will be capped;
10. Provide a post-construction compliance report, within 45 calendar days of completion of the project, to the Energy Commission CPM;
11. Make certain that all food-related trash will be disposed of in closed containers and removed every day. Feeding of wildlife shall be prohibited; and
12. Report all inadvertent deaths of sensitive species to the appropriate project representative. Injured animals will be reported to CDFG, and the project owner will follow instructions that are provided by CDFG.

**Verification:** All mitigation measures and their implementation methods will be included in the BRMIMP. Two copies of the CPM approved BRMIMP must be provided to the CPM five days prior to site mobilization and a copy provided to the SJCOG, Inc.

**BIO-7** Thirty days prior to the beginning of site mobilization, the project site, the road improvement, and water pipeline route must be surveyed by a qualified biologist in accordance with USFWS and CDFG protocols for San Joaquin kit fox, Western burrowing owl, and other sensitive species listed in **Table 1**.

**Verification:** Two weeks prior to site or related facility mobilization, the Designated Biologist will submit to the CPM a report detailing the methodology and results of the surveys for approval.

**BIO-8** The project owner will implement the construction practices and mitigation measures as outlined in *Standardized Recommendations for Protection of the San Joaquin Kit fox Prior to or During Ground Disturbance* (USFWS 1999).

**Verification:** The document will be incorporated into the final BRMIMP. The BRMIMP shall be submitted to the CPM for approval at least 60 days prior to start of any site or related facility mobilization activities.

**BIO-9** The applicant will purchase habitat credits from the San Joaquin Council of Governments, Inc. that meet or exceed the 19.5 acres anticipated for the power plant site, substations, construction laydown, and any disturbance along linears (Staff assumes a ratio of 1:1 as specified in the SJMSCP compensation ratios). Fees will be assessed based on the most recently adopted rates by the San Joaquin Council of Governments Board of Directors (The 2002 rate for Category C/Pay Zone B [Agriculture] is $1,690/acre).

**Verification:** A copy of the check issued to San Joaquin Council of Governments, Inc., verifying the funds have been paid, shall be provided to the CPM within five days of certification. Within 20 days, or CPM approved timeframe, of certification the project owner will provide to the CPM a written certificate or letter signed by an authorized officer of the San Joaquin Council of Governments, Inc. that verifies that the contribution has been made according to the conditions specified above.

**BIO-10** The TPP site and worker parking and staging areas shall be fenced in a manner to exclude moderately small mammals. The design shall be incorporated into the BRMIMP. The fence should be patrolled daily by on-site staff prior to the start of each days construction activities. The Designated Biologist must be on-site during all construction activities if a suitable fence design cannot be installed.

**Verification:** The fence design will be incorporated into the final BRMIMP. The BRMIMP shall be submitted to the CPM for approval at least 60 days prior to start of any site or related facility mobilization activities. If the CPM determines the fence cannot exclude small mammals including the San Joaquin kit fox, a designated biologist will remain onsite during all construction activities.

## B. SOIL AND WATER RESOURCES

This portion of the Decision focuses on the project's potential to induce erosion and sedimentation, adversely affect surface and groundwater supplies, degrade surface and groundwater quality, and increase the likelihood of flooding. 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 laws, ordinances, regulations, and standards (LORS).

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The Tracy Peaker Project (TPP) site is located in an unincorporated portion of San Joaquin County immediately southwest of the City of Tracy. The topography is flat, with a moderate downward slope of about 1.6 percent to the northeast. The elevation of the site ranges from approximately 172 feet to 182 feet above mean sea level. Most of the area surrounding the project site is agricultural. The site itself is fallow agricultural land bounded by the Delta-Mendota Canal to the west and southwest, Union Pacific Railroad tracks to the north, and agricultural land to the south and east. Construction of the TPP will remove 10.3 acres of land from agricultural production. (Ex. 1, § 8.9.1; Ex. 4, p. 5.8-3.)

#### 1. Soils

Soils on the site are classified as Capay Clay and Stomar Clay Loam. The Capay soils are deep, moderately well drained with low permeability, and formed of fine-textured alluvium derived mostly from sandstone and shale. They are used for growing irrigated crops. The Stomar soils are deep, well-drained with low permeability and formed in alluvium from sedimentary rocks sources. Stomar soils are used for irrigated and dryland cropland and livestock grazing.

Both soils have a relatively low susceptibility to water erosion and a moderate to high susceptibility to wind erosion. Both soils have a potential for shrinking and swelling. (Ex. 4, pp. 5.8-3, 5.8-4; Ex. 1, Table 8.9-2; Ex. 19, Attachment 2.11-4.)

Project construction activities will alter the soils from their natural state, which will increase the potential for soil loss from wind and water erosion. (Ex. 1, § 8.9.2.1; Ex. 4, p. 5.8-12.) Applicant has prepared a preliminary Storm Water Pollution Prevention Plan (SWPPP) for construction activity. The SWPPP contains proposed wind erosion and dust control management practices. These practices include mulching or seeding of disturbed areas, application of dust palliatives to disturbed areas, speed limits on unpaved construction areas, covering open-haul trucks with tarps, diversion ditches, temporary sediment traps, soil stabilizers, soil compaction, silt fences, and gravel. Applicant will use best management practices in implementing these erosion-control measures during construction. (Ex. 1, § 8.9.3; Ex. 4, p. 5.8-13; Ex. 19, Attachment 2.11-4.) To ensure less than significant impacts, Condition **Soil & Water 3** prohibits the project owner from initiating site mobilization until after it receives CEC Compliance Program Manager (CPM) approval of its site grading and drainage plans. Condition **Soil & Water 2** requires the project owner to obtain CPM approval of its construction SWPPP prior to site mobilization.

After construction, the plant site will be covered by plant equipment, buildings, parking areas and landscaping and will have a low potential for wind or water erosion. (Ex. 4, p. 5.8-13.) The TPP site will not alter the existing drainage pattern except to direct all plant runoff to an evaporation/percolation basin on site. (Ex. 4, p. 5.8-11.)

2. Hydrology

Surface water bodies in the vicinity of the proposed power plant site include the Delta-Mendota Canal, the California Aqueduct and the San Joaquin River and its tributaries. The 116-mile Delta-Mendota Canal carries fresh non-potable water

and groundwater southeasterly along the west side of the San Joaquin Valley from the Tracy Pumping Plant to the Mendota Pool about 30 miles west of Fresno. (Ex. 4, p. 5.8-4.) The canal has the capacity to deliver approximately 3 million acre-feet of water annually from water supplied by the U.S. Bureau of Reclamation from the Sacramento and San Joaquin River Basins. In 2000 the Plain View Water District, which serves the TPP site, received about 6,670 acre-feet from the Delta-Mendota Canal.

The California Aqueduct, which also carries fresh water and groundwater to a network of local canals and irrigation ditches, is approximately 1/4 mile southeast of the project site. (Ex. 1, § 8.14.1.1.)

The project site is approximately 10 miles southwest of the San Joaquin River and approximately 5 miles north of the Old River channel (a branch of the San Joaquin River). The site is located within the San Joaquin River watershed. Average annual flow at San Joaquin County since 1930 is approximately 3.4 million acre-feet. (Ex. 1, § 8.14.1.1; Ex. 4, p. 5.8-5.)

The California Central Valley Groundwater Aquifer underlies the TPP site. The aquifer system is formed primarily of sand and gravel with significant amounts of silt and clay. Because beds of silt and clay do not readily transmit water under natural conditions, they act as barriers to vertical flow and cause variances in hydraulic depth. Groundwater in the vicinity of the TPP generally occurs at depths of about 50 feet below the surface, although depths to groundwater in local wells vary from around 30 feet to 200 feet below ground surface.
(Ex. 1, § 8.14.1.1; Ex. 4, p. 5.8-5.)

### 3. Project Water Supply

The TPP will require water for evaporative cooling in the air intake, plant service water for general maintenance activities such as washing equipment and plant areas, demineralized water for combustion turbine generator (CTG) washing, and potable water for domestic use. **Soil and Water Table 2**, replicated below, provides a summary of maximum daily and average annual water requirements. Applicant estimates that it will use approximately 30-acre feet of water per year based on 8,000 hours of operation.[37] The average daily flow rate for the project is estimated at 20 gallons per minute (gpm). (Ex. 2, § 8.14.1.2; 3/6/02 RT, p. 182.)

**Soil and Water Table 2**
**Daily and Annual Water Requirements**

| Water Use | Maximum Summer[1] (gpm) | Average Annual[2] (gpm) |
|---|---|---|
| Evaporative Cooler Makeup[3] | 51 | 19 |
| Demineralized Water | Intermittent[3] | Intermittent[3] |
| Service Water (Untreated) | 1 | 1 |
| Treated Water for Domestic Use | <1 | <1 |
| Total | 53[2] | 21[2] |

Notes:
1. Based on both turbines operating at a full load at an ambient temperature of 98 degrees F with 24 percent relative humidity .
2. Based on both turbines operating at a full load at an ambient temperature of 59 degrees F with 60 percent relative humidity.
3. Demineralized water would be used intermittently for CTG washing. Each wash would use approximately 3,200 gallons of water per CTG.

Water use during construction is estimated by the Applicant to be approximately 2,000 gallons per day, with a maximum of 12,000 gallons per day, for a period of about three months. Most of this water will be used for fugitive dust control. Additional water, estimated at 2,000 gallons per day, will be used for flushing and commissioning of water treatment systems. Flushing is estimated to take five days. Based on these water use rates, the total construction water use is estimated at 192,500 gallons, or about 0.6-acre feet. (Ex. 2, § 8.14.1.2.)

[37] A majority of the water, approximately 27-1/2 acre-feet, will be used for evaporative cooling. The remaining 1-1/2 acre-feet of water will be used for other plant purposes. (3/6/02 RT, p. 201.)

Plain View Water District will supply the water required for TPP construction activities from the District's existing turnout in the Delta-Mendota Canal.[38] The water will be trucked from the turnout to the project site. Plain View Water District will also supply the water required for TPP cooling and plant service from its existing turnout. The water will be piped from the turnout to the TPP through a new 1,470-foot pipeline. (Ex. 2, § 8.14.1.2; 3/6/02 RT, p. 202; Ex. 20.) The 40-acre parcel that contains the 10.3-acre TPP site has an existing allocation of 136 acre-feet per year from the Plain View Water District. Applicant plans to use all of the allocation exclusively for the TPP site. (Ex. 2, § 8.14; 3/6/02 RT, p. 195.) It is anticipated that the remaining 29.7 acres of the 40-acre site will be leased to a local farmer who has the capacity to provide irrigation water from other allocations. (Ex. 19, Attachment 2.11-1.)

Except for potable water, which will be imported to the site for drinking, the Delta-Mendota Canal is the only source of water proposed for the TPP site. During drought years, the supply of Delta-Mendota Canal water is curtailed to users according to the available supply. For the twelve-year period from 1990 to 2001 the minimum delivery by the Plain View Water District to the TPP site was 34 acre-feet per year. (Applicant estimates it will use 30 acre-feet per year at its maximum level of operation.) (3/6/02 RT, p. 181.) The minimum deliveries occurred during the drought years of 1991 and 1992. Non-drought year deliveries ranged from 122 to 136 acre-feet per year. In the event of curtailed deliveries from the Delta-Mendota Canal resulting in less than the required 0.09 to 0.22 acre-feet per day, Applicant plans to access any unused water allocation for the nearby Tracy Biomass Generating Plant[39] or curtail TPP production to the

[38] Water from the canal will be supplied to the project under the Plain View Water District's contract with the U.S. Bureau of Reclamation for Delta-Mendota Canal water delivery. The Canal is part of the federal Central Valley Project. (Ex. 2, § 8.14.2.)

[39] Although the Tracy Biomass Generating Plant uses groundwater wells as the source of its water supply, it also has a 120 acre-feet surface water allocation from the Plain View Water District. Applicant indicates that it will only use the Biomass Plant's surface water allocation in the event of water curtailments. Applicant represents it will not use groundwater under any circumstances. (3/6/02 RT, pp. 187-188.)

point where evaporative cooling water is not necessary. (Ex. 4, p. 5.8-6; 3/6/02 RT, pp. 183-184.) A peaker plant can operate without the use of evaporative coolers because evaporative cooling water is used for efficiency purposes only. (3/6/02 RT, p. 204.)

Potential alternative sources of water include reclaimed water from the Tracy Wastewater Treatment Plant approximately seven miles from the TPP site and groundwater from a well drilled on-site. Both alternative sources are technically feasible, but would result in additional potential environmental impacts and increased costs. (Ex. 2, § 8.14.) Use of reclaimed water would require construction of a 7-mile pipeline from the Tracy Wastewater Treatment Plant to the TPP site and could have environmental impacts. The cost of using treated wastewater would also be nominally higher than the proposed use of canal water and would have higher upfront costs due to initial pipeline construction, purchase of additional water treatment equipment, and first year operation and maintenance (O&M) costs. (Ex. 4, p. 5.8-10; Ex. 19, Attachment 2.11-3).

The use of groundwater could have a potential adverse effect due to local drawdown of the groundwater table. The cost of using groundwater from an on-site well would also be approximately twice the cost of using Delta-Mendota Canal water, and would have higher upfront costs due to initial well drilling (200 feet), purchase of additional water treatment equipment, and first year O&M costs. (Ex. 4, p. 5.8-10.) Currently, there are no facilities, pipelines or wells on the project site that would permit the use of groundwater. (3/6/02, RT p. 204.)

Nick Phiney, on behalf of Intervenor City of Tracy, expressed concern that under certain conditions (e.g., emergency curtailment of all water from the Delta-Mendota Canal) the proposed project might use groundwater (including groundwater from the Biomass plant) and potentially impact local groundwater supplies. (Ex. 22; 3/6/02 RT, p. 210.) Although the potential impact of the TPP using groundwater has not been evaluated, Staff considers it unlikely the adverse

effect would be significant given the relatively low rate of pumping required (21 gpm on average for the TPP compared with an average well yield of 1,100 gpm in the San Joaquin Valley). In addition, the Application for Certification states that the only source of water will be the Delta-Mendota Canal. In order for the TPP to use any other water source it would have to obtain modification of the conditions of the project. (3/66/02 RT, p. 210.) Applicant has also expressed a willingness to accept a condition prohibiting it from pumping or causing groundwater to be pumped at any time, including during emergency curtailment. (3/66/02 RT, p. 188.) Condition **Soil & Water-5**, added by this Commission, prohibits any groundwater pumping by or on behalf of the TPP unless a modification of the project conditions is obtained.

Since the TPP will not use groundwater for the plant or any TPP operations it will not impact local groundwater supplies. However, the TPP could potentially affect groundwater recharge. Infiltration through the valley floor is a small part of groundwater recharge in the Central Valley, and plant buildings and associated paved areas will be impervious to infiltration. This impact will be offset by routing all plant site runoff to a percolation basin. Thus, the TPP will have a less than significant impact on groundwater supplies and recharge. (Ex. 4, p. 5.8-10.)

4. Wastewater Disposal

TPP wastewater discharge sources include evaporative cooler blowdown, plant drains, CTG wash, storm water, and domestic wastes from employee sanitary facilities. Evaporative cooler blowdown will be routed to a wastewater recovery package plant consisting of a softening/filtration/reverse osmosis system. Non-recoverable wastewater from this system will be stored in a 10,000-gallon tank to be transported by a licensed waste management company to a Class II liquid waste landfill in Kern County (McKittrick Waste Treatment site). Recovered water will be routed back for use as evaporative cooler makeup. (Ex. 4, p. 5.8-7.)

Plant drain (service) water, consisting of area wash water, sample drain water, equipment leakage and contact storm water,[40] will be collected in drains and routed through an oil-water separator. Water from the oil-water separator will be taken to the McKittrick treatment site. The oil will be taken off-site for recycling. CTG wash water will be routed to storage tanks for storage. When the tanks are drained, the CTG wash water will be transported to the McKittrick Waste Treatment site. (Ex. 4, pp. 5.8-7, 5.8-8.)

Non-contact storm water from the plant site (storm water from areas other than the immediate vicinity of the combustion turbine compartment, turbine exhaust stack drains, ammonia storage area drains, and transformers) will be routed to an evaporation/percolation basin. (Ex. 2, § 2.2.8.1.)

Domestic wastes from employee restrooms will be discharged to an on-site septic system. The system will consist of a 1,500-gallon tank and a 1,000 square-foot leach field. It will be located approximately 3,000 feet from the nearest groundwater well. Groundwater at this location is approximately 175 to 200 feet below the ground surface. (Ex. 4, pp. 5.8-8, 5.8-10.)

The TTP will be a near-zero wastewater discharge facility with all process water and contact storm water transported from the plant by a licensed hauler for off-site recycling or disposal, thereby eliminating the possibility for groundwater contamination. Non-contact storm water will be contained on site in a percolation basin. (3/6/02 RT, p. 182.) Since non-recoverable wastes will be collected and transported to an appropriate, licensed landfill for disposal, impacts from water discharge will be less than significant. (Ex. 4, p. 5.8-9.) Condition **Soil & Water-1** requires the project owner to dispose of wastewater at an appropriately licensed facility.

[40] Contact storm water is defined as storm water originating from those parts of the plant where there is a potential for hydrocarbon contamination (i.e., the combustion turbine compartment, turbine exhaust stack drains, ammonia storage area drains, and transformer containment areas where equipment containing hydrocarbons is located).

5. Cumulative Impacts

No significant cumulative impacts are expected to result from the Tracy Peaker Project. The water use proposed for the TPP is not expected to increase overall water use of the 40-acre site, and the quantity of water needed for construction and operation of the TPP is small. The TPP site will not contribute to off-site runoff quality or quantity, nor affect groundwater. Soils not covered by the plant buildings, pavement, and ancillary improvements will not be changed over the long-term. Aside from the removal of 10.3 acres of land from agricultural production, the TPP site will not contribute to a cumulative soil and water resources impact. (Ex. 4, p. 5.8-13.)

**FINDINGS AND CONCLUSIONS**

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

1. Soils in the project area are subject to wind and water erosion as a result of project construction.
2. The TPP's preliminary Storm Water Pollution Prevention Plan contains "best management practices" that will mitigate potential impacts from erosion and runoff associated with project construction and operation.
3. The project will use approximately 30 acre-feet of water per year at its maximum level of operation. Plain View Water District will provide the water for the project from the District's turnout in the Delta Mendota Canal pursuant to an existing water allocation for the parcel where the project site is located.
4. The water allocation from the Plain View Water District is sufficient to meet normal project water demands.
5. The TPP will not use groundwater for TPP construction or operation.
6. The project's wastewater discharge will not result in any significant biological impacts.
7. The construction and operation of the TPP will not cause any significant or cumulative adverse impacts to soil and water resources.
8. Implementation of the Conditions of Certification will ensure that the project will conform with all applicable laws, ordinances, regulations, and

standards related to soil and water resources as identified in the pertinent portions of **APPENDIX A** in this Decision..

The Commission therefore concludes that with implementation of the Conditions of Certification, listed below, the construction and operation of the Tracy Peaker Project will not create any direct, indirect or cumulative impacts to soil and water resources.

**CONDITIONS OF CERTIFICATION**

**SOIL & WATER 1:** The project owner shall not discharge wastewater, other than storm water, and provide evidence that the wastewater is being disposed of at an appropriately licensed facility.

**Verification:** The project owner will provide evidence of wastewater disposed at an appropriately licensed facility in the annual compliance report.

**SOIL & WATER 2:** The project owner shall obtain a General National Pollution Discharge Elimination System (NPDES) Permit for discharges of storm water associated with construction activity and develop the Storm Water Pollution Prevention Plan (SWPPP) that is required as a component of the NPDES permit. The project owner shall also obtain an NPDES permit for storm water discharge from an industrial activity and develop a SWPPP as required by the NPDES permit.

**Verification:** At least 60 days prior to site mobilization, the project owner shall submit a copy of the NPDES permits and the construction SWPPP to the Compliance Program Manager (CPM). Approval by the CPM of the construction SWPPP is required prior to the start of site mobilization. At least 60 days prior to power plant operation, the project owner shall submit an industrial activity SWPPP. Approval by the CPM of the industrial activity SWPPP is required prior to the start of TPP operation.

**SOIL & WATER 3:** Prior to site mobilization, the project owner shall obtain staff approval or an Erosion Control Plan. The Erosion Control Plan shall include and be consistent with the standards required by the County of San Joaquin Department of Public Works (including the requirement that all construction drawings be size D). The plan shall be submitted for the CPM's approval and for review and comment by the County of San Joaquin. The plan shall include provisions for containing and treating any contaminated soil or groundwater encountered. As appropriate, the plan will incorporate changes resulting from the final project design.

**Verification:** At least 60 days prior to site mobilization, the Erosion Control Plan shall be submitted to the CPM for review and approval and to the County of San Joaquin Department of Pubic Works for review and comment. The CPM must approve the Erosion Control Plan prior to the initiation of any site mobilization activities.

**SOIL & WATER 4:** The project owner shall comply with all San Joaquin County Department of Environmental Health requirements necessary to obtain a Commercial Septic Permit and meet all county potable water requirements for a commercial/industrial activity.

**Verification:** At least 30 days prior to site mobilization, the project owner shall provide proof from San Joaquin County Department of Environmental Health that they have complied with all requirements to obtain a Commercial Septic Permit and have met all county potable water requirements for commercial/industrial activity.

**SOIL & WATER 5:** No groundwater shall be used by the Tracy Peaker Project. The project owner shall record on a monthly basis the amount of surface water used by the TPP.

**Verification:** The project owner shall include monthly water usage and source data in the Annual Compliance Report for the life of the project.

## C. CULTURAL RESOURCES

This topic analyzes cultural resources, which are defined to include the structural and cultural evidence of the history of human development and life on earth. Cultural resources may be found on the ground surface or buried beneath the surface. Since project development and construction usually entail surface and sub-surface disturbance of the ground, the proposed project has the potential to adversely affect both known and unknown cultural resources. Federal and state laws require a project developer to implement mitigation measures that minimize adverse impacts to *significant* cultural resources.[41] Potential cultural resources are identified through records searches and field surveys.

Cultural resources are typically placed in one of three categories: prehistoric archaeological resources, historic archaeological resources and ethnographic resources. Prehistoric archaeological resources are those resources that resulted from prehistoric human occupation and use of an area. Such resources include sites and deposits, structures, artifacts, rock art, and trails. Historic resources are materials usually associated with Euro-American exploration and settlement of an area, as well as the beginning of a written historical record. Resources include archaeological deposits, sites, structures, traveled ways, artifacts, documents, buildings and objects. Ethnographic resources are those resources important to the heritage of a particular ethnic or cultural group, such as Native Americans, African, European, or Asian immigrants. They may include traditional resource collecting areas, ceremonial sites, topographic features, cemeteries, shrines, or ethnic neighborhoods and structures.

[41] Potential impacts are considered only for those cultural resources that are deemed significant or important under criteria established by federal and state laws and regulations. If a cultural resource is determined to be eligible for or listed on the National Register of Historic Places (NRHP) or the California Register of Historical Resources (CRHR), then the resource is deemed significant. (National Historic Preservation Act, 16 U.S.C. 470; 36 CFR 800 et seq.; CEQA Guidelines, Title 14, Cal. Code. of Regs., § 15064.5 and Title 14, Cal. Code of Regs., § 4850 et seq.)

## SUMMARY AND DISCUSSION OF THE EVIDENCE

### 1. The Project Area

The proposed power plant site, associated linears, and equipment laydown area will be located in an unincorporated portion of San Joaquin County in northern San Joaquin Valley. The prehistory of the northern San Joaquin Valley is not well known and is based on scant archaeological remains. Archaeological evidence in the area indicates that prehistoric inhabitants were seasonal hunter-gatherers who concentrated their habitation sites near rivers. Based on artifact assemblages, four cultural traditions have been identified for the central San Joaquin Valley: the Positas Complex (ca. 3,300-2,600 B.C.); the Pacheco Complex, phases A and B (ca. 2,600-1,600 B.C and ca. 1,600 B.C–A.D. 300, respectively); the Gonzaga Complex (ca. A.D 300-1,000; and the Panoche Complex (ca. A.D. 1,500-1,850). (Ex. 1, § 8.3.1.4; Ex. 4, pp. 5.2-3 through 5.2-4.)

The Northern Valley Yokuts were the historical occupants of the central and northern San Joaquin Valley during the late prehistoric archaeological phase. They were organized in territorial triblets of 300 people with each village headed by a chief. Villages were constructed on mounds along the river's edge in close proximity to rivers and marshes. (Ex. 1, § 8.3.1.5; Ex. 4, p. 5.2-4.)

In historic times, the northern San Joaquin Valley was an important transportation crossroads and played a key role in the development of California. The Union Pacific Railroad (formerly known as the Southern Pacific Railroad) lies adjacent to the proposed project site. The City of Tracy, located immediately southwest of the project site, remains a hub of transportation due to the intersection of three interstate highways and its proximity to the Bay Area and Sacramento. (Ex. 1, § 8.3.1.6.)

### 2. Potential Impacts

To determine whether cultural resources exist in the project vicinity, Applicant conducted records searches encompassing the area within a one-half-mile radius of the project site and its associated linear facilities, as well as field surveys of the project site and linear alignment corridors. (Ex. 1, § 8.3.2.) Record searches at the Central California Information Center (CCIC) revealed that 16 prior archeological surveys had been conducted in the project area, but that there were no previously recorded cultural sites within the project footprint. (Ex. 1, § 8.3.2.1.)

#### a. Historical Resources

Two above-ground resources of historic age were identified within one-half mile of the power plant site and its associated linear facilities from the cultural records resources searches. (Ex. 1, Appendix C [Confidential filing].) The resources consist of the Delta-Mendota Canal and the Union Pacific Railroad. The Delta-Mendota Canal has been previously evaluated for significance and appears to be eligible for listing on the National Register of Historic Places (NRHP). One segment of the Union Pacific Railroad, which lies within the survey corridor, has previously been evaluated for the NRHP and found to be ineligible due to a lack of integrity. (*Ibid*; Ex. 4, pp. 5.2-5.)

Six above-ground resources of historic age were identified by Applicant during a pedestrian field survey of the power plant site, water pipe line route, and access roads. Ground visibility was at least 95 percent over the entire project site. The resources identified were the Telsa-Kasson electrical transmission line; the Telsa-Manteca electrical transmission line; the Delta-Mendota Canal; the Union Pacific Railroad Crossing; a segment of telegraph line along the Union Pacific Railroad line; and a fence line along the north side of the plant. (*Ibid*; Ex. 4, pp. 5.2-5 through 5.2-6.)

Staff and Applicant agree that there will be no impacts to any of the above-mentioned resources of historic age as a result of the proposed project. The Tesla-Kasson transmission line, the Tesla-Manteca transmission line, the interconnection with the Delta-Mendota Canal via the 1970s turnout, the Union Pacific Railroad Crossing, and the fence line are not eligible for listing on the California Register of Historical Resources (CRHR). Although the telegraph line has not been formally evaluated for CRHR significance, Staff concluded that monitoring and avoidance of the telegraph poles would ensure that the impact would be less than significant. One of the proposed conditions of certification would require avoidance of the telegraph poles.

b. Archaeological Resources

A cultural resources records search of archaeological resources indicated one isolated cache of milling artifacts has been identified within a half-mile radius of the project area. This resource is not located within the project area and would not be affected (Ex. 1, Appendix C [Confidential filing, Attachment C-2]; Ex. 4, p. 5.2-7.)

No archaeological resources were identified by Applicant during a pedestrian field survey of the power plant site, water pipe line route, and the dirt access roads. Ground visibility was at least 95 percent over the entire project site. (Ex. 1, [Confidential filing, p. C-21 through c-22]; Ex. 4, p. 5.2-7.)

The proposed project will not have an adverse impact on any known archaeological resource and archaeological sensitivity of the area is low. (Ex. 1, § 8.3.2.6.) However, buried archaeological resources could be encountered during project construction since the project site is located on an alluvial fan. (Ex. 1, § 8.15.1.3.) An alluvial deposit may contain buried prehistoric cultural resources. A cache of Native American artifacts was previously recorded within

one half-mile of the project site. (Ex. 4, p. 5.2-7.) Implementation of the proposed Conditions of Certification **CUL-1** through **CUL-7** will reduce impacts to any archaeological resource identified during construction to a level of insignificance.

c. Human Remains

There is no record of human remains that would be disturbed by the proposed project. (Ex. 4, p. 5.2-7.) In the event that human remains are encountered during project construction, implementation of Conditions of Certification **CUL-1** through **CUL-7** and application of state law will reduce impacts to a level of insignificance.

3. Cumulative Impacts

There are no known cumulative impacts because the project will not affect any known cultural or historical resources. Staff concluded that should any cultural resources be identified during construction, implementation of the proposed Conditions of Certification **CUL-1** through **CUL-7** would reduce cumulative impacts to a level of insignificance. (Ex. 4, p. 5.2-8.)

**FINDINGS AND CONCLUSIONS**

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

1. Cultural resources exist within one half mile of the proposed Tracy Peaker Project.

2. The project will not affect any known cultural or historic resources.

3. The potential for impacts to unknown cultural resources exists since such resources may not be discovered until subsurface soils are exposed during excavation and construction.

4. The Conditions of Certification listed below contain measures that will ensure that construction and operation of the Tracy Peaker Project will not create significant direct, indirect, or cumulative adverse impacts to cultural resources.

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 provide the California Energy Commission Compliance Project Manager (CPM) with the name and resume of its Cultural Resources Specialist (CRS), and one alternate CRS, if an alternate is proposed, who will be responsible for implementation of all cultural resources conditions of certification.

Protocol: (1) The resume for the CRS and alternate, if an alternate is proposed, shall include information that demonstrates that the CRS meets the minimum qualifications specified in the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61.

- The technical specialty of the CRS shall be appropriate to the needs of this project and shall include a background in anthropology, archaeology, history, architectural history or a related field;

- The background of the CRS shall include at least three years of archaeological or historic, as appropriate, resource mitigation and field experience in California;

- The resume shall include the names and phone numbers of contacts familiar with the CRS's work on referenced projects.

(2) The resume shall also demonstrate to the satisfaction of the CPM, the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during project ground disturbance, construction and operation.

(3) The CRS may obtain qualified cultural resource monitors to monitor as necessary on the project. Cultural resource monitors shall meet the following qualifications.

- A BS or BA degree in anthropology, archaeology, historic archaeology or a related field and one year experience monitoring in California; or

- An AS or AA in anthropology, archaeology, historic archaeology or a related field and four years experience monitoring in California; or

- 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.

(4) The project owner shall ensure that the CRS completes any monitoring, mitigation and curation activities necessary to this project and fulfills all the requirements of these conditions of certification. The project owner shall also ensure that the CRS obtains additional technical specialists, or additional monitors, if needed, for this project. The project owner shall also ensure that the CRS evaluates any cultural resources that are newly discovered or that may be effected in an unanticipated manner for eligibility to the California Register of Historic Resources (CRHR).

**Verification:** (1) At least 30 days prior to the start of ground disturbance, the project owner shall submit the name and statement of qualifications of its CRS and alternate CRS, if an alternate is proposed, to the CPM for review and approval.

(2) If the CPM determines the proposed CRS to be unacceptable, the project owner shall submit another individual's name and resume for consideration. If the CPM determines the proposed alternate to be unacceptable, the project owner may submit another individual's name and resume for consideration. At least 10 days prior to the 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.

(3) At least 20 days prior to ground disturbance, the CRS shall provide a letter naming anticipated monitors for the project and stating that the identified monitors meet the minimum qualifications for cultural resource monitoring required by this condition. If additional monitors are obtained during the project, the CRS shall provide additional letters to the CPM, identifying the monitor and attesting to the monitor's qualifications. The letter shall be provided one week prior to the monitor beginning on-site duties.

**Verification:** (4) 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 onsite work and is prepared to implement the cultural resources conditions of certification.

**CUL-2** (1) 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 will 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 them with copies to the 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. Maps shall identify all areas of the project where ground disturbance is anticipated.

Protocol: (1) If construction of this project will proceed in phases, maps and drawings may be submitted in phases. A letter identifying the proposed schedule of each project phase shall be provided to the CPM.

(2) Prior to implementation of additional phases of the project, current maps and drawings shall be submitted to the CPM.

(3) At a minimum, the CRS shall consult 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. A current schedule of anticipated project activity shall be provide to the CRS on a weekly basis during ground disturbance and provided to the CPM in each Monthly Compliance Report (MCR).

**Verification:** (1) At least 20 days prior to the start of ground disturbance, the project owner shall provide the designated cultural resources specialist and the CPM with the maps and drawings.

(2) If this is to be a phased project, a letter identifying the proposed schedule of the ground disturbance or construction phases of the project shall also be submitted.

(3) At least 20 days prior to the start of ground disturbance on each phase of the project, following initial ground disturbance, copies of maps and drawings reflecting additional phases of the project shall be provided to the CPM for review and approval.

(4) If there are changes to the scheduling of the construction phases of the project, a letter shall be submitted to the CPM within 5 days of identifying the changes. The letter in shall be accompanied with a copy of the current weekly schedule of anticipated project activity.

**CUL-3** Worker Environmental Awareness Training for all new employees shall be conducted on a weekly basis, prior to beginning and during periods of ground disturbance. The training may be presented in the form of a video. The training shall include a discussion of applicable laws and penalties under the law. The training shall also include samples or visuals of artifacts that might be found in the project vicinity. The training should inform workers that the CRS, alternate CRS or monitor has the authority to halt construction in the event of a discovery or unanticipated impact to a cultural resource. The training shall also instruct

employees to halt or redirect work in the vicinity of a find and to contact their supervisor and the CRS or monitor. An informational brochure shall be provided that identifies reporting procedures in the event of a discovery. Workers shall sign an acknowledgement form that they have received training and a sticker shall be placed on hard hats indicating that environmental training has been completed.

**Verification:** Copies of acknowledgement forms signed by trainees shall be provided in the MCR.

**CUL-4** The CRS, alternate CRS and the Cultural Resources Monitor(s) shall have the authority to halt or redirect construction if previously unknown cultural resource sites or materials are encountered or if known resources may be impacted in a previously unanticipated manner.

Protocol: If any cultural resources are encountered, the project owner shall notify the CPM within 24 hours after the find.

Construction will not resume at the discovery site until all of the following conditions have occurred:

(1) the CRS has notified the CPM and the project owner of the find and the work stoppage;

(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.

**Verification:** At least 20 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 cultural resources monitor(s) have the authority to halt construction activities in the vicinity of a cultural resource find and stating that the CRS will notify the CPM and project owner within 24 hours after a find.

**CUL-5** Cultural Resource monitoring shall be conducted during the initial groundbreaking at the plant site and at the trenching for underground water and gas lines. The monitoring shall continue until a time determined by the CPM. The CPM will base the decision for monitoring on data provided by the CRS obtained during the initial excavating of the site. The potential for encountering buried archeological deposits shall be assessed by the CRS based on the initial groundbreaking observations. The initial assessment will provide recommendations for the need of additional monitoring in the plant site area and for the underground gas and water lines. If additional monitoring is recommended, then cultural resource monitoring shall continue until the CRS and CPM determine that cultural resources will not be impacted.

Protocol: (1) The CRS, alternate CRS, or monitors shall continuously monitor construction activities in the vicinity of the proposed access road to ensure protection of the historic telegraph poles. Avoidance of the telegraph poles is required.

(2) Monitors shall keep a daily log of any monitoring or cultural resource activities. The CRS may informally discuss cultural resource monitoring and mitigation activities with Energy Commission staff.

(3) The CRS shall notify the project owner and the CPM, by telephone, of any incidents of non-compliance with any cultural resources conditions of certification 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.

(4) If isolated Native American artifacts or non-significant Native American archaeological sites are discovered, then interested Native Americans on the Native American Heritage Commission (NAHC) list for San Joaquin County will be notified of the find. A Native American monitor shall be retained if the CPM determines that significant Native American artifacts have been discovered at the site. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that will be monitored.

**Verification:** (1) Within 5 days of initial groundbreaking activities have commenced, 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 recommendations of any areas that may require additional monitoring for buried archeological deposits. The CRS in consultation with the CPM will then determine if further monitoring is required. If additional monitoring for buried deposits is required, resumes of individuals conducting the monitoring, if other than the CRS or alternate CRS, shall be provided to the CPM with the assessment letter. When all monitoring has been completed for buried deposits, the CRS shall provide a letter to the CPM for approval and the project owner indicating that the CRS has determined that monitoring for buried archaeological deposits is no longer needed.

(2) During construction of the access road in the vicinity of the historic telegraph poles, the project owner shall include in the MCR copies of the weekly summary reports prepared by the CRS regarding project-related cultural resources monitoring. Copies of daily logs shall be retained and made available for audit by the CPM as needed.

(3) Within 24 hours of recognition of a non-compliance issue, the CRS 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

with conditions of certification. In the event of a non-compliance issue, a report written no sooner than two weeks after resolution of the issue that describes the issue, resolution of the issue and the effectiveness or the resolution measures, shall be provided in the next MCR.

(4) If significant Native American artifacts are discovered, the project owner shall send notification to the CPM identifying the person(s) retained 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-6** After completion of the project, the project owner shall ensure that the CRS prepares a Cultural Resources Report (CRR) according to the Archaeological Resource Management Reports (ARMR) Guidelines as recommended by the California Office of Historic Preservation. The project owner shall submit the report to the CPM for review and approval. The report shall be considered final upon approval by the CPM.

Protocol: The CRR shall include (but not be limited to) the following:

a. For all projects:

1. Description of pre-project literature search, surveys, and any testing activities;
2. Maps showing areas surveyed or tested;
3. Description of any monitoring activities;
4. Maps of any areas monitored; and
5. Conclusions and recommendations.

b. For projects in which cultural resources were encountered, include the items specified under “a” and also provide:

1. Site and isolated artifact records and maps;
2. Description of testing for, and determinations of, significance and potential eligibility; and
3. Research questions answered or raised by the data from the project.

c. For projects regarding which cultural resources were recovered, include the items specified under “a” and “b” and also provide:

1. Descriptions (including drawings and/or photos) of recovered cultural materials;
2. Results and findings of any special analyses conducted on recovered cultural resource materials;

3. An inventory list of recovered cultural resource materials; and
4. The name and location of the public repository receiving the recovered cultural resources for curation.

**Verification:** After completion of the project, the project owner shall ensure that the CRS completes the CRR within 90 days following completion of the analysis of the recovered cultural materials. Within 7 days after completion of the report, the project owner shall submit the CRR to the CPM for review and approval. Within 30 days after receiving approval of the CRR, the project owner shall provide to the CPM documentation that the report has been sent to the California Office of Historic Preservation and the appropriate archaeological information center(s).

**CUL-7** If cultural resource deposits are encountered through project monitoring, the project owner shall ensure that cultural resource materials, maps, and data collected during data recovery and mitigation for the project are delivered to a public repository that meets the US Secretary of Interior requirements for the curation of cultural resources following the filing of the CPM-approved CRR with the appropriate entities. 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 and a copy of the CRR are delivered for curation. The project owner shall provide a copy of the transmittal letter received from the curation facility and provide a copy to the CPM within 30 days after receipt.

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 testing, 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.[42] (Cal. Code of Regs., tit. 14, §15000 et seq., App. G.) CEQA also requires an analysis of whether a project may cause impacts exposing persons or structures to geologic hazards. This section reviews the project's potential impacts on significant geological and paleontological resources, and surface water hydrology. The analysis also evaluates whether project-related activities would potentially result in public exposure to geological hazards; and if so, whether proposed mitigation measures would adequately protect public health and safety.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is located in the Coast Ranges-Sierran Block boundary zone along the boundary between the Diablo Range to the west and the Central Valley to the east. This structural zone is characterized by a series of low hills and a complex system of blind thrust faults. (Ex. 4, p. 6.1-2; Ex. 1, § 8.15.1.)

The project site is near the toe of a series of coalescing alluvial fans, and is immediately underlain by Quaternary alluvium deposits. The subsurface at the site consists of a layer of moderately to high expansive clay underlain by an alluvial sequence of silt, clay, sand and gravel. Ground water is estimated at a depth of 25 to 30 feet below the ground surface and appears to flow toward the southeast. (Ex. 1, § 8.15.1.3)

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[42] Paleontological resources are the mineralized (fossilized) remains of prehistoric plant and animal organisms, as well as the mineralized impressions (trace fossils) left as indirect evidence of the forma and activity of such organisms. These resources are considered to be nonrenewable resources significant to our culture under state and federal law. (Ex. 1, § 8.16.)

1. Potential for Seismic Events

The project site is located within the Coast Ranges-Sierran Block boundary zone in a region that historically has been seismically active. There are roughly 10 fault zones that are considered to be active within 62 miles (100 kilometers) of the project site. However, neither the proposed power plant nor the related linear extensions are located on a fault. The closest known active fault is a segment of the Great Valley fault system, which lies approximately 1 kilometer (0.6 miles) from the project site.[43] (Ex. 4, p. 6.1-2.) No active or potentially active faults are known to cross the power plant footprint. (*Ibid*.) Although significant ground-shaking associated with seismic activity could potentially pose a significant hazard at the project site, the probability of such seismic activity within the next 50 years is extremely low. (Ex. 4, p. 6.1-5.) The project will also be designed to withstand strong seismic ground shaking in accordance with California Building Code standards for seismic zone 4, which will reduce the impact of such shaking to less than significant levels. (*Ibid*; see the **Facility Design** section of this Decision.)

Applicant conducted a site-specific study to determine the potential for ground rupture, liquefaction, soil erosion, landslides, and hydrocompaction in soils beneath or adjacent to project components and linear facilities that would present potential hazards associated with strong seismic shaking and/or unusual water infusion. (Ex. 1, § 8.15.2 et seq.) Final project design will incorporate measures to mitigate any potential seismic damage resulting from these geological phenomena. (Ex. 1, § 8.15.3.)

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[43] The maximum earthquake value assigned to the nearest segment of the Great Valley fault system is a moment magnitude of 6.7 event. The estimated peak ground acceleration for the site is 43 percent of acceleration gravity (0.43g) based on a 6.7 magnitude earthquake on the nearest segment of the Great Valley fault system. Eighteen earthquakes of estimated 6.0 or greater magnitude have occurred with 62 miles (100 kilometers) of the project site. Earthquakes of this magnitude pose significant ground-shaking hazard to the project. (Ex. 1, § 8.15.)

2. Potential Impacts to Geological/Paleontological Resources

No geological or paleontological resources were identified at the site or along the linear facility corridors. (Ex. 4, § 6.1.) However, the Quaternary alluvium present at the project site has a high paleontological sensitivity rating. (Ex. 1, § 8.16.1.6; Ex. 4, § 6.1.) Applicant has proposed paleontological monitoring and salvaging as mitigation, and Commission staff concurs with this approach. Conditions **PAL-1** through **PAL-7** will ensure that impacts on paleontological resources will be reduced to insignificant levels should such resources be encountered during project-related activities. These conditions require the project owner to implement a Paleontological Resources Monitoring and Mitigation Plan to minimize impacts to undiscovered fossil materials 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 and linear facilities are located in seismic zone 4, which presents significant earthquake hazards.

2. The project and linear facilities will be designed to withstand strong earthquake shaking in accordance with the California Building Code.

3. Final project design will include measures to mitigate potential risk from liquefaction associated with strong seismic shaking.

4. Final project design will include measures to mitigate the potential for unstable soil conditions or geological units and expansive soils.

5. There is no evidence of geological or paleontological resources at the project site or along the linear facility corridors.

6. To prevent impacts to unknown sensitive paleontological resources, the project owner will implement a Paleontological Resources Monitoring and Mitigation Plan.

7. With implementation of the Conditions of Certification, the project will conform with all applicable laws, ordinances, regulations, and standards relating to geology and paleontological resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that the project will not cause any significant direct, indirect or cumulative adverse impacts to either geological or paleontological resources or expose the public to geological hazards.

## CONDITIONS OF CERTIFICATION

**GEN-1** The project owner shall design, construct and inspect the project in accordance with the 1998 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 handled in Conditions of Certification in the **Transmission System Engineering** section of this document.

> Protocol: In the event that the initial engineering designs are submitted to the CBO when a successor to the 1998 CBC is in effect, the 1998 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 California Energy Commission Compliance Project Manager (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 [1998 CBC, Section 109 – Certificate of Occupancy].

**GEN-5** Prior to the start of rough grading, the project owner shall assign at least one of each of the following California registered engineers to the project: A) 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 handled 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.

Protocol: 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 [1998 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.

Protocol 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.

Protocol 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 1998 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 1998 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 1998 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 [1998 CBC, Section 104.2.4, Stop orders].

Protocol 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.

Protocol 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.

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

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

**CIVIL-1** Prior to the start of site grading, 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 1998 CBC [Appendix Chapter 33, Section 3309.5, Soils Engineering Report; and Section 3309.6, Engineering Geology Report].

**Verification:** At least 15 days prior to the start of site grading (or a lesser number of days mutually agreed to by the project owner and the CBO), 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.

**PAL-1** Prior to ground disturbance, the project owner shall ensure that the designated paleontological resource specialist approved by the CPM is available for field activities and prepared to implement the Conditions of Certification.

The designated paleontological resources specialist shall be responsible for implementing all the paleontological Conditions of Certification and for using qualified personnel to assist in this work.

> Protocol: The project owner shall provide the CPM with the name and statement of qualifications for the designated paleontological resource specialist.

The statement of qualifications for the designated paleontological resource specialist shall demonstrate that the specialist meets the following minimum qualifications: a degree in paleontology or geology or paleontological resource management; and at least three years of paleontological resource mitigation and field experience in California, including at least one year's experience leading paleontological resource mitigation and field activities.

The statement of qualifications shall include a list of specific projects the specialist has previously worked on; the role and responsibilities of the specialist for each project listed; and the names and phone numbers of contacts familiar with the specialist's work on these referenced projects.

If the CPM determines that the qualifications of the proposed paleontological resource specialist do no satisfy the above requirements, the project owner shall submit another individual's name and qualifications for consideration.

If the approved, designated paleontological resource specialist is replaced prior to completion of project mitigation, the project owner shall obtain CPM approval of the new designated paleontological resource specialist by submitting the name and qualifications of the proposed replacement to the CPM, at least ten (10) days prior to the termination or release of the preceding designated paleontological resource specialist.

Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

**Verification:** At least 90 days prior to site mobilization, or a lesser number of days mutually agreed upon by the CPM and owner, the project owner shall submit the name, resume, and the availability of its designated paleontological resource specialist, to the CPM for review and approval. The CPM shall provide approval or disapproval of the proposed paleontological resource specialist.

At least 10 days prior to the termination or release of a designated paleontological resource specialist, the project owner shall obtain CPM approval of the replacement specialist by submitting to the CPM the name and resume of

the proposed new designated paleontological resource specialist. Should emergency replacement of the designated specialist become necessary, the project owner shall immediately notify the CPM to discuss the qualifications of its proposed replacement specialist.

**PAL-2** Prior to site mobilization, the designated paleontological resource specialist shall prepare a Paleontological Resources Monitoring and Mitigation Plan to identify general and specific measures to minimize potential impacts to sensitive paleontological resources, and submit this plan to the CPM for review and approval. After CPM approval, the project owner's designated paleontological resource specialist shall be available to implement the Monitoring and Mitigation Plan, as needed, throughout the project construction.

Protocol: The Paleontological Resources Monitoring and Mitigation Plan to be developed in accordance with the guidelines of the Society of the Vertebrate Paleontologists (SVP, 1994) shall include, but not be limited to, the following elements and measures:

- A discussion of the sequence of project-related tasks, such as any pre-construction surveys, fieldwork, flagging or staking; construction monitoring; mapping and data recovery; fossil preparation and recovery; identification and inventory; preparation of final reports; and transmittal of materials for curation;

- Identification of the person(s) expected to assist with each of the tasks identified within this condition for certification, and a discussion of the mitigation team leadership and organizational structure, and the inter-relationship of tasks and responsibilities;

- Where monitoring of project construction activities is deemed necessary, the extent of the areas where monitoring is to occur and a schedule for the monitoring;

- An explanation that the designated paleontological resource specialist shall have the authority to halt or redirect construction in the immediate vicinity of a vertebrate fossil find until the significance of the find can be determined;

- A discussion of equipment and supplies necessary for recovery of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;

- Inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum, which meets the Society of Vertebrate Paleontologists standards and requirements for the curation of paleontological resources; and

- Identification of the institution that has agreed to receive any data and fossil materials recovered during project-related monitoring and mitigation work, discussion of any 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.

**Verification:** At least 60 days prior to site mobilization on the project, or a lesser number of days mutually agreed upon by the CPM and owner, the project owner shall provide the CPM with a copy of the Paleontological Resources Monitoring and Mitigation Plan prepared by the designated paleontological resource specialist for review and approval. If the plan is not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and necessary changes.

**PAL-3** Prior to ground disturbance, and throughout the project construction period, as needed for all new employees, the project owner and the designated paleontological resource specialist shall prepare and conduct CPM-approved training for all project managers, construction supervisors, and workers who operate ground disturbing equipment. The project owner and construction manager shall provide the workers with the CPM-approved set of procedures for reporting any sensitive paleontological resources or deposits that may be discovered during project-related ground disturbance.

> Protocol: The paleontological training program shall discuss 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 also include the set of reporting procedures that workers are to follow if paleontological resources are encountered during project activities. The training program shall be presented by the designated paleontological resource specialist and may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or any other areas of interest or concern.

**Verification:** At least 30 days prior to site mobilization, or a lesser number of days mutually agreed upon by the CPM and owner, the project owner shall submit to the CPM for review, comment, and written approval, the proposed employee training program and the set of reporting procedures the workers are to follow if paleontological resources are encountered during project construction.

If the employee training program and set of procedures are not approved, the project owner, the designated paleontological resource specialist, and the CPM shall meet to discuss comments and necessary changes, before the beginning of construction.

Documentation for training of additional new employees shall be provided in subsequent Monthly Compliance Reports, as appropriate.

**PAL-4** The designated paleontological resource specialist shall be present at all times to monitor construction-related grading, excavation, trenching, and/or augering in areas where potentially fossil-bearing sediments have been identified. If the designated paleontological resource specialist determines that full-time monitoring is not necessary in certain portions of the project area or along portions of the linear facility routes, the designated specialist shall notify the project owner and CPM. The CPM will then determine if a reduction in monitoring is appropriate for particular locations.

**Verification:** The project owner shall include in the Monthly Compliance Reports a summary of paleontological activities conducted by the designated paleontological resource specialist.

**PAL-5** The project owner, through the designated paleontological resource specialist, shall ensure the recovery, 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 its compliance files copies of signed contracts or agreements with the designated paleontological resource specialist and other qualified research specialists who will ensure the necessary data and fossil recovery, mapping, preparation for analysis, analysis, identification and inventory, and preparation for delivery of all significant paleontological resource materials collected during data recovery and mitigation for the project. The project owner shall maintain these files for a period of three years after completion and approval of the CPM-approved Paleontological Resources Report and shall keep these files available for periodic audit by the CPM.

**PAL-6** The project owner shall ensure preparation of a Paleontological Resources Report by the designated paleontological resource specialist. The Paleontological Resources Report shall be completed following completion of the analysis of the recovered fossil materials and related information. The project owner shall submit the paleontological report to the CPM for approval.

> Protocol: The report shall include (but not be limited to) a description and inventory list of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the paleontological resource specialist that project impacts to paleontological resources have been mitigated.

**Verification:** Within 90 days following completion of the analysis of the recovered fossil materials, the project owner shall submit a copy of the Paleontological Resources Report to the CPM for review and approval under a cover letter stating that it is a confidential document.

**PAL-7** The project owner shall include in the facility closure plan a description regarding the potential for closure of the facility to impact paleontological resources. The conditions for closure will be determined when a facility closure plan is submitted to the CPM, 12 months prior to closure of the facility. If no activities are proposed that would potentially impact paleontological resources, then no mitigation measures for paleontological resource management are required in the facility closure plan.

**Verification:** The closure requirements for paleontological resources are to be based upon the Paleontological Resources Report and the proposed grading activities for facility closure.

The project owner shall include a description of closure activities described above in the facility closure plan.

# VI. 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

1. The Site

The 10.3-acre project site is located in an unincorporated portion of San Joaquin County, approximately 1 mile southwest of the City of Tracy. The site is contained within a larger 40-acre parcel, which is zoned AG-40 (i.e., agriculture with minimum 40-acre lot size). The project site and laydown areas are located on state designated Prime Farmland. The site is not currently in agricultural production, but has historically been used for growing alfalfa, tomatoes, beans, cauliflower, and sugar beets. The soil on the site has been tilled and with the exception of transmission lines crossing the southeast corner of the property is bare of any structures. The site is bounded by a Union Pacific Railroad right-of-way (ROW) to the north, agricultural property to the east and south, and the Delta-Mendota Canal to the southwest (with agricultural land across the canal to the southwest). (Ex. 2 § 2.2.1; Ex. 17, pp. 3.4-6, 3.4-7.) The California Aqueduct is approximately 0.5 miles southwest of the site.

There are no parks, recreational areas, educational facilities, health care facilities, or commercial uses within a one-mile radius of the site. Residential use within a one-mile radius includes a neighborhood of single-family, ranchette-style dwellings/farmhouses 0.8 miles to the east, and Redbridge, a residential community located 0.8 miles northeast within the city limits of Tracy. A Church of the Latter Day Saints worship facility is located approximately one mile east of the project site. To the north within one mile of the site are the Owens-Brockway Glass Container manufacturing plant and the Nutting-Rice warehouse. The Tracy Biomass Power Plant is approximately 0.6 miles to the northwest. A meat packing facility is approximately 0.9 miles southwest of the site. Various trucking distribution centers and a county firehouse are located to the west just outside the one-mile radius. (Ex. 2 § 8.4.3.1.) The various land uses are illustrated in color in Figure 8.4-3 of Exhibit 2.

2. Potential Impacts

The project will convert 10.3 acres of Prime Farmland to a non-agricultural use. Condition **LAND-2** requires Applicant to provide mitigation fees to the American Farmland Trust (AFT) to compensate for prime farmland conversion impacts. It also requires Applicant to develop an agricultural mitigation plan describing long-term management of the remaining agricultural operation on the unconverted portion (29.7 acres) of the 40 acre parcel where the project will be located. The preservation of the remaining land in the parcel as agricultural land will prevent interference, disruption, or division of agricultural uses in adjacent properties. (Ex. 17, p. 3.4-12.) With implementation of Condition **LAND-2** conversion of the 10.3 acres of Prime Farmland to a non-agricultural use will have a less than significant impact.

The TPP parcel will be created by means of a lot line adjustment. Applicant indicates the lot line adjustment has been approved and recorded, but has not

submitted proof of the approval. To ensure the site is legally subdivided property, Condition **LAND-1** requires submission of a copy of the recorded certificate of compliance for the site, prepared in accordance with the State Subdivision Map Act.

Staff considered San Joaquin County's LORS and concluded that with mitigation, the proposed project would not result in significant environmental impact.

a) San Joaquin County General Plan

The San Joaquin County General Plan governs land use and development in the County. (Ex. 17, p. 3.4-2.) The General Plan land use goals and policies applicable to the Tracy Peaker Project (TPP) are represented below in Land Use Table 1.[44]

[44] Land Use Table 1 contains the policies discussed infra in this subsection (a).

**Land Use Table 1**
**San Joaquin County General Plan Goals and Policies Relevant to the Proposed Project**

| Relevant County General Plan Goals |
|---|
| Land Use Goal: Provide a well-organized and orderly development pattern that seeks to concentrate urban development and protect the County's agricultural and natural resources. |
| **Relevant Policies – Community Organization and Development Pattern Policies (CODPP)** |
| 7. Residential, commercial, and industrial development shall be shown on the General Plan Map only in communities identified in Figure IV-I, except in the following instances: (a) contiguous, industrial expansion of existing industrial areas; (b) Freeway Service areas; (c) Commercial Recreation areas; or (d) Truck Terminal Areas. |
| 8. Outside of communities (identified in Figure IV-1), existing industrial areas (which may be expanded), Freeway Service areas, Commercial Recreation areas, and Truck Terminal areas, the General Plan Map land use designation shall be Agriculture or other open space designations. |
| 10.Development shall be compatible with adjacent uses. |
| 11.Development should complement and blend in with its setting. |
| 25. Existing infrastructure should be maintained and upgraded when feasible, to reduce the need for new facilities. |
| **Relevant Policies – Agricultural Lands** |
| 5. Agricultural areas shall be used principally for crop production, ranching, and grazing. All agricultural support activities and non-farm uses shall be compatible with agricultural operations and shall satisfy the following criteria: (a) the use requires a location in an agricultural area because of unusual site area requirements, operational characteristics, resource orientation, or because it is providing a service to the surrounding agricultural area; (b) the operational characteristics of the use will not have a detrimental impact on the management or use of surrounding agricultural properties; (c) the use will be sited to minimize any disruption to the surrounding agricultural operations; and (d) the use will not significantly impact transportation facilities, increase air pollution, or increase fuel consumption. |
| 7. There shall be no further fragmentation of land designated for agricultural use, except in the following cases: parcels for homesites may be created, provided that the General Plan density is not exceeded; (b) a parcel be created for the purpose of separating existing dwellings on a lot, provided the Development Title regulations met; and (c) a parcel may be created for a use granted by permit in the A-G zone, provided that conflicts with surrounding agricultural operations are mitigated. |
| 8. To protect agricultural land, non-agricultural uses which are allowed in agricultural areas should be clustered, and strip or scattered development should be prohibited. |
| San Joaquin County, 1995a |

The loss of 10.3 acres of agricultural land as a result of the project's construction would not meet the County's General Plan Land Use Goal of protecting County agricultural resources. Applicant will mitigate the agricultural losses or fragmentation of agricultural land and bring the project into LORS compliance

both with the General Plan Land Use Goal and Agricultural Lands Policy 7. The proposed mitigation is reflected in Condition **LAND-2**. (Ex. 17, p. 3.4-15.)

The project complies with Community Organization and Development Pattern Policies (CODPP) 7 and 8 even though the site is zoned for agriculture, because placement of the site adjacent to the railroad right-of-way and industrial area (i.e., Owens-Brockway, Nutting-Rice, and Tracy Biomass uses) can be deemed an industrial expansion, which is allowed by the General Plan. (*Ibid*.)

The project complies with CODPP 10 and 11 because its placement adjacent to the industrial compound containing Owens-Brockway, Nutting Rice and Tracy Biomass, locates the project in an area of similar character and compatible uses, allowing it to complement and blend in with surrounding uses. (*Id*.)

CODPP 25 provides that existing infrastructure should be maintained and upgraded when feasible, to reduce the need for new facilities. Although there was discussion of alternatives that included the possibility of upgrading the Tracy Biomass facility, Staff deferred to the County's conclusion that the TPP is consistent with the County's General Plan policies, including CODPP 25. (*Id*.; Cal Code of Regs, tit. 20 § 1714.5, subd. (b))

The project complies with Agricultural Lands Policy 5 (see Table 1). Although the project is a non-farm use of agricultural land, such use is required in order for the TPP to utilize the resources the site provides, i.e., the electrical transmission and natural gas linear facilities on site and the water supply adjacent to the parcel. The project site has also been designed to consolidate non-agricultural uses on the land and to prevent disruption of continued agricultural use on the remaining non-converted land. (Ex. 17, p. 3.4-16.)

The TPP is consistent with Agricultural Lands Policy 8 (see Table 1) in that its location immediately south of the Owens-Brockway facility extends the existing cluster of industrial uses. (*Ibid.)*

b) San Joaquin Development Title-Consistency with Williamson Act Provisions

The San Joaquin County Development Title functions as the County's zoning ordinance and contains regulations governing the use of land and improvement of real property within zoning districts. The Development Title implements the land use policies of the San Joaquin County General Plan. (Ex. 17, p. 3.4-3.) A description of the Development Title sections applicable to the proposed project is provided below in **Land Use Table 2**. Electric generating facilities such as the TPP fall under the San Joaquin County Development Title use type of "Utility Services, Major". Under the Development Title, an electric power generating plant is a conditionally permitted use for land that is zoned Agriculture. (Ex. 17, p. 3.4-5.)

**Land Use Table 2**
**San Joaquin County Development Title Sections Relevant to the Proposed Project**

| Relevant County Development Title Sections |
|---|
| **9-115.580 Use Classification System - Utility Services** |
| The Utility Services use type refers to the provision of electricity, liquids, or gas through wires or pipes. The following are the categories of the Utility Services use type: (a) Minor. Utility services that are necessary to support principal development involving only minor structures. Typical uses include electrical distribution lines, utility poles, and pole transformers. (b) Major. Utility services involving major structures. Typical uses include natural gas transmission lines and substations, petroleum pipelines, and wind farms. |
| **9-605.6(d) Special Use Regulations – Power-Generating Facility** |
| A permit approval shall be subject to all of the following findings: (1) The source of the power requires locating the use in an area designated as Agricultural or Resource Conservation in the General Plan; (2) The use will not have a significantly detrimental effect on the agricultural activities in the vicinity; and (3) The site of the use can be rehabilitated for agricultural production or a permitted use in the AG zone if the power source is temporary. |
| **Table 9-605.2: Uses in Agricultural Zones** |
| Utility Services – Minor is considered a "Permitted Use" in all Agricultural Zones, Major is considered "Use Permitted Subject to Site Approval" in all Agricultural Zones |
| **9-1810.3(b)(1)(Z) Williamson Act Contract Regulations: Uses - Utility Services** |
| Williamson Act Contract Regulations: Uses. Property shall be limited to those uses specified herein. (1) The following uses or use types: …Nonresidential:…(Z) Utility Services. |
| Source: San Joaquin County, 1995c |

When Applicant began the certification process, the site, water supply pipeline, and access route were all proposed to be located on land under a Williamson Act contract.[45] However, notice of non-renewal of the contract had been previously filed by the landowner in 1992, and the contract expired in March 2002.[46] (3/13/02 RT, p. 299.) Prior to expiration of the contract San Joaquin County made a finding that the proposed project was compatible with section 9-1810.3 (b)(1)(Z) of the County's Williamson Act Contract Regulations. (Ex. 17, p. 3.4-13.) The Department of Conservation deferred to the County's determination regarding compatibility. The determination of compatibility indicates that there will be no conflict with existing zoning for agricultural use or section 9-1810.3(b)(1)(Z) (see Table 2) of the County's Williamson Act policy. (Ex. 17, pp. 3.4-18, 3.4-22.)

3. Consistency with Laws, Ordinances, Regulations and Standards (LORS)

Intervenors Robert Sarvey, City of Tracy, Charles Tuso, Larry Cheng and Irene (collectively Intervenors) contend that the evidentiary record does not support a finding of compliance with local LORS because a) Staff did not solicit and/or obtain County input with respect to all applicable County LORS, and b) the project is inconsistent with the City of Tracy's General Plan/Urban Management Plan (UMP) and South Schulte Specific Plan, both of which designate the proposed project site for residential development.

a) Compliance with County LORS

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[45] The Williamson Act (Govt. Code, § 51200 et seq.) is a state land use policy that seeks to preserve open space and agricultural land by discouraging premature urbanization, which occurs when landowners choose to develop their property because of property tax incentives. In return for an agreement to restrict the property to agricultural uses for 10 years at a time with automatic annual renewal, the landowner receives preferential tax treatment. (Ex. 2, § 8.4.2.2.)

[46] San Joaquin County is currently in the process of re-zoning all lands under Williamson Act contracts to Agriculture Resource Management (ARM) zones. The re-zoning of Williamson Act

Intervenors Tuso, Cheng and City of Tracy argue the evidence relied on to establish compliance with County LORS (i.e., a September 18, 2001, letter from the County) is insufficient and incomplete because it did not contain a comprehensive discussion of all County LORS relevant or applicable to the project. They suggest that because the County's letter only discussed conformity with section 9-605.6, subdivision (d) of the County Development Title and did not address the issue of conformity with section 9-816.6 (see Table 2) of that same Development Title, a finding of compliance cannot be made.

Applicant and Staff contend the findings required under section 9-816.9 constitute policy findings or ultimate factual findings necessary for actual site approval and/or issuance of a conditional use permit, and that both the site approval process and the use permit process are superseded by the Commission's site certification process.

The Commission finds Applicant and Staff's argument persuasive. Under the Warren-Alquist Act the Commission has exclusive jurisdiction over the proposed siting of electrical generating facilities with a generating capacity of 50 megawatts or more. (Pub. Res. Code, §§ 25500, 25120.) Issuance of a certificate by the Commission is in lieu of any permit, certificate or similar document required by a local agency for use of the site and related facilities, and supersedes any applicable statute, ordinance or regulation of that agency. (Pub. Res. Code, § 25500.) Section 9-818.6 of the San Joaquin County Development Title sets forth the findings the County must make in order to actually issue a site approval or conditional use permit.[47] Under the Warren-Alquist Act a local agency decision

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contract lands will have no effect on the compatibility of the project with the site as Major Utilities are permitted with site approval for all agricultural zones, including ARMs. (Ex. 17, p. 3.4-18.).

[47] Section 9-818.6 provides in pertinent part: Prior to approving an application for site approval the reviewing authorities shall find that all of the following are true: a) Consistency. The proposed use is consistent with the goals, policies, standards and maps of the General Plan . . . and any other applicable plan adopted by the County; b) Improvements. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been

regarding whether a permit should issue is superseded by the Commission's site certification process. Therefore, it was not necessary for the County to make the findings required in section 9-818.6.

The Commission also finds that even if Staff should have requested County comment on section 9-818.6 of County's Development Title, no prejudice resulted as a consequence of Staff's failure to do so. Determinations comparable to those that would have been made by the County under section 9-818.6 were made by Staff as part of their evaluation of the proposed project pursuant to the Warren-Alquist Act. That evaluation included an extensive review of all applicable land use LORS, as well as consultation with the County and the City of Tracy. Based on that review and the consultations Staff concluded that with implementation of Staff's proposed conditions of certification, the project would be in compliance with all applicable LORS.

b) Compliance with City of Tracy LORS

The City of Tracy has adopted two Specific Plans for development within the vicinity of the project site. The Tracy Hills Specific Plan area, located within the City of Tracy's incorporated area, and the South Schulte Specific Plan area, which includes the project site. The South Schulte Plan area is in an unincorporated area of San Joaquin County. The Plan area has not been annexed to the City. Although the South Schulte Plan area is within the City of Tracy's sphere of influence,[48] the entire area, including the TPP site, remains within the County's jurisdiction since no annexation has occurred. (3/28/02 RT,

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provided . . .; c) Site Suitability. The site is physically suitable for the type of development and for the intensity of development; Issuance Not Detrimental. Issuance of the permit will not be significantly detrimental to the public health, safety and welfare or be injurious to the property or improvements of adjacent properties; and e) Compatibility. The site is compatible with adjoining land uses.

[48] A city's sphere of influence delineates the expected future physical boundaries and service area of that city. (Govt. Code, § 56076.) In 1994 the Local Agency Formation Commission approved the City of Tracy's application to establish its sphere of influence in the unincorporated areas of San Joaquin County.

pp. 45-46.) Because the project site is within the County's jurisdiction, Staff concluded the City of Tracy's LORS were not applicable to the project.

Intervenors contend, however, that the City of Tracy's LORS are applicable to the project. They point out that Public Resources Code section 25003 states the legislative intent that planning for electrical generating and related transmission facilities include consideration of local plans for land use, urban expansion and economic development. They also note that Public Resources Code section 25523, subdivision (d) requires the Commission to make findings regarding the conformity of the proposed site and related facilities with "*relevant*" local LORS. Intervenors maintain the City of Tracy's land use regulations constitute relevant LORS because the project site is within the City of Tracy's sphere of influence and the City has a significant interest in the site since it has planned for its future development. They also argue that recognition of the City's LORS as applicable to the project would be consistent with the state policy that requires cities to engage in long-term planning, whereas non-recognition would undermine that policy because it would permit local long-term planning to be ignored during the siting process. Intervenors further claim that the project is inconsistent with the City of Tracy's adopted land use plans and policies and therefore does not comply with LORS.

Applicant and Staff maintain that since the City of Tracy has not annexed the project site its LORS are inapplicable. They note that the Warren-Alquist Act consistently refers to compliance with "applicable" laws. (See Pub. Res. Code, § 25525 [facility that does not comply with "*applicable*" LORS cannot be certified absent an override]; Cal. Code of Regs., tit. 20, § 1752, subd. (b)(3) [Presiding Member's Proposed Decision must contain findings regarding compliance with "*applicable*" LORS]; Cal. Code of Regs., tit. 20, § 1744, subd. (b) [local agency responsible for enforcement of "*applicable*" law must assess adequacy of applicant's proposed compliance; Commission staff must assist and coordinate assessments to ensure all "*applicable"* laws are considered].) Applicant also

points out that under the California Environmental Quality Act (CEQA) the initial inquiry for potential significance is whether a project conflicts with the land use plan, policy or regulation of an agency with "*jurisdiction over the project*." (Cal. Code of Regs., tit. 14, § 15387, App. G, IX(b).) This CEQA procedure is analogous to the Commission's process which seeks comments on LORS compliance from agencies that, but for the Commission's exclusive jurisdiction, would have jurisdiction over the project.

In this case the County has exclusive jurisdiction over the project site, and it is undisputed that the County would not have to ensure compliance with City of Tracy LORS in order to develop the project site, even though the site is within the City's sphere of influence. (3/28/02 RT, pp. 47-48.) Applicant contends these facts support a finding that the City's LORS are not applicable to the project site absent annexation. Applicant also contends that the term "relevant" in Public Resources Code section 25523, subdivision (d), when read in the context of the entire statutory scheme, clearly has the same meaning as "applicable." It points out that if section 25523, subdivision (d) were interpreted as suggested by Intervenors, the Commission would have less authority than the County because in order to certify a project it would have to find compliance not only with County LORS, but also the otherwise unenforceable LORS of the City of Tracy. This would defeat the statutory purpose behind granting the Commission exclusive jurisdictional power, a power which is in lieu of and supercedes all other law. (Pub. Res. Code, § 25500.) The Commission finds the arguments of Staff and Applicant persuasive on this point. We therefore conclude the City of Tracy's LORS are not applicable to the project.

4. Cumulative Impacts

Cumulative impacts may be caused if a proposed project would have effects that are individually limited but cumulatively considerable when viewed together with

the effects of related projects.  The reasonably foreseeable development projects in the area are represented below in **Land Use Table 3**.

**Land Use Table 3**
**Reasonably Foreseeable Development Projects**

| Development | Size | Location | Jurisdiction | Status |
|---|---|---|---|---|
| **South Schulte Specific Plan** | 1,844 acres | Between Schulte Road to the north and the Delta-Mendota Canal and California Aqueduct to the south, Corral Hollow Road to the east and Delta-Mendota Canal, in San Joaquin County west of the City of Tracy | San Joaquin County)/ City of Tracy | The Plan area, including the TPP site, is currently in San Joaquin County's jurisdiction. The land area covered by this Plan is in the City of Tracy's Sphere of Influence, but has not been annexed by the City. The plan is currently on hold for the City of Tracy to find a developer to provide infrastructure for the community. The project site is located within the bounds of this plan and if approved, the plan would need to be modified for its inclusion. |
| **Tracy Hills** | 6,175 acres | Approx. 1 mile to the southeast, between Corral Hollow Road and the proposed Lammers Road/I-580 interchange | City of Tracy | Final EIR was prepared by the City of Tracy in 1998. The City is in process of finding a developer for the infrastructure needed by the project. |
| **Old River Specific Plan** | 1,000 acres | North of I-205 and northwest of the TPP site | San Joaquin County | Community meetings have been held regarding what would be a commercial/industrial development. The plan is under consideration as an amendment to the San Joaquin County General Plan. |
| **Auto Auction Facility** | 200 acres | Patterson Pass Road Business Park | San Joaquin County | Under review by San Joaquin County. |
| **Mountain House Community Service District- "New Town" Development** | 5,000 acres | Approx. 7 miles northwest of the TPP site, bounded to the west by the Alameda County Line, to the east by Mountain House Parkway and between I-205 to the south and the Old River to the north. | San Joaquin County | Phasing for the Specific Plan I has begun with construction of the Service District's water treatment plant, site grading, and laying of infrastructure on the site property. The project involves development of a new community with residential, commercial, and industrial development. |
| **Catellus Project** | Unknown | Approx. 3 miles northwest of the TPP site, between I-205 and Grant Line Road, west of Lammers Road | City of Tracy | Application for annexation to the City of Tracy to be filed. |
| **Bright Development** | 160 acres | Approx. 2 miles to the north, bounded by Lammers Road to the east, I-205 to the north, and 11th Street to the south. | City of Tracy | Application for annexation to the City of Tracy filed. |
| **Tracy Gateway** | 538 acres | Approx. 3 miles to the northwest, along I-205 | City of Tracy | Application for annexation to the City of Tracy filed and in Draft EIR process. |
| **St. Bernard's Catholic Church and School** | 5-10 acres | Intersection of Corral Hollow and Valpico Rds. | San Joaquin County | St. Bernard's is discussing the project with San Joaquin County. No permitting activity yet. |
| **Tracy Joint Unifed School** | 5-10 acres | Mabel Josephine Drive and Schoolhouse; and Tennis | City of Tracy | The School District has identified the sites, but does not yet have a development |

| Development | Size | Location | Jurisdiction | Status |
|---|---|---|---|---|
| **District planned School Sites** | each? | Lane and Barcelona | | schedule, and no permitting activity has occurred. |
| **Califia community** | 6,800 acres | Approx. 9 miles to the northeast of the TPP, near Lathrop in western San Joaquin County. | City of Lathrop | Lathrop has annexed the property; environmental permitting process is in progress. Groundbreaking is expected in 2004. |
| **East Altamont Energy Center** | 19 acres | Approx. 8 miles northwest of the TPP site, in Alameda County, just north of the Mountain House Rd./Kelso Rd. intersection | Alameda County | Under the 12-month CEC review process, PSA pending. |
| **FPL Tesla Power Project** | 25 acres | Aprox. 4 miles west of the TPP site, in Alameda County, just north of the Tesla Substation on Midway Road | Alameda County | Under the 12-month CEC review process, in Data Adequacy. |
| **Source:** City of Tracy, 1997; City of Tracy, 1998;TPP, 2001; San Joaquin County, 2000; San Joaquin County, 2001; EAEC, 2001; FPL Tesla, 2001; HDR, 2001; Lombardo, 2001; Lombardo, 2002; Dean, 2002. | | | | |

A significant amount of growth is occurring in San Joaquin County, including in the vicinity of the project on the west side of the City of Tracy. However, the project is not expected to make a significant contribution to regional impacts related to new development and growth, such as a population influx, the resultant increased demand for public services, and extension of public infrastructure. The TPP, in combination with other projects in the region, will contribute to a regional loss of open space and agricultural land. The acreage of agricultural land converted in the TPP is small relative to other projects in the County and is less than power projects proposed nearby in Alameda County. However, without mitigation in the form of open space and agricultural land preservation and land trusts, the project presents a significant cumulative impact on agricultural resources and open space. The agricultural land preservation agreement (Condition **LAND-2**) negotiated between Applicant and the American Farmland Trust will help to mitigate the cumulative impacts of this project to a less than significant level. (Ex. 17, p. 3.4-24.)

Intervenor City of Tracy and several residents (3/13/02 RT, pp. 538-540; 3/14/02 RT, pp. 164-168, 175-176) have expressed concern over the compatibility of the

TPP project with adjacent land uses, and the proximity of the proposed TPP to planned residential developments such as Tracy Hills and South Schulte. The Tracy Hills Specific Plan area is approximately 0.6 miles south of the proposed project, within the city limits of Tracy. If the Tracy Hills Specific Plan is fully implemented in its current form, residential development will be located within one-half mile of an industrial area. (Ex. 17, p. 3.4-18.) The South Schulte Specific Plan area is located in an unincorporated portion of San Joaquin County. Although the Plan area is within the City of Tracy's sphere of influence, it has not been annexed to the City and is still under San Joaquin County's jurisdiction. The South Schulte Specific Plan area includes the project site, which is labeled in the Plan as Residential Very Low and is adjacent to a planned park. (Ex. 17, pp.3.4-18 through 3.4-20.)

Staff determined that the project is compatible with the planned development. Staff concluded the TPP would be an expansion of an established, existing industrial complex that was in place long before the planned development. Staff also considered the City of Tracy's decision to approve the South Schulte Specific Plan area in 1997 and Tracy Hills Specific Plan area in 1998 for residential development, even though both areas are located very close to an existing industrial area, a key factor in any discussion of land use compatibility. In addition, Staff believed that there was room for designing additional open space buffer areas in the planned development. Staff noted such a buffer area would be in addition to the buffer provided by the TPP's proposed landscaping/screening, and the 29.7 acres of TPP land that would remain in agricultural use. Finally, Staff noted that infrastructure restrictions in the slow-growth initiative Measure A and a slowing economy had discouraged developers from investing in the infrastructure necessary to move to the next stage of development. (Ex. 17, pp.3.4-18 through 3.4-20.) The Commission is persuaded by the weight of the evidence that the proposed project is compatible with adjacent land uses.

## FINDINGS AND CONCLUSIONS

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

1. With mitigation, the Tracy Peaker Project is consistent with the policies expressed in the San Joaquin County General Plan and the San Joaquin Development Title.

2. When Applicant began the certification process the project site, water supply pipeline, and access route were all subject to a Williamson Act contract, which expired in March 2002.

3. The site has historically been used for agriculture, but is not currently utilized as agricultural land.

4. The project does not physically divide an established community.

5. Use of the site to construct and operate the project will not adversely affect agricultural production in San Joaquin County or initiate eventual development of the surrounding area.

6. The TPP will use only 10.3 acres of the 40-acre parcel where it is located. The remaining land (approximately 29.7 acres) will be preserved for agricultural use pursuant to Condition of Certification **Land-2**. **Land-2** makes the project compatible with San Joaquin County's General Plan Land Use Goal of protecting County agricultural resources.

7. With mitigation, the project's potential cumulative impacts on agricultural lands are insignificant.

8. San Joaquin County's LORS are applicable to this project. The City of Tracy's LORS are not applicable. The project is in compliance with applicable LORS.

9. The project is compatible with existing and planned land uses.

10. Implementation of the Conditions of Certification, below, ensures that the project will comply with all applicable laws, ordinances, regulations, and standards relating to land use as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission therefore concludes that the project will not create any significant direct, indirect, or cumulative adverse land use impacts.

## CONDITIONS OF CERTIFICATION

**LAND-1** The project owner shall provide the Compliance Project Manager (CPM) with a copy of the recorded Certificate of Compliance prepared in accordance to the requirements of the State Subdivision Map Act for the subject property to ensure that the proposed project site is a legally subdivided property.

**Verification:** Prior to the evidentiary hearing on the proposed project, the project owner shall provide to the CPM for the Tracy Peaker Project (TPP) a copy of the recorded Certificate of Compliance.

**LAND-2** Prior to the start of construction, the project owner shall mitigate for the conversion of agricultural land to a non-agricultural use for the construction of the power generation facility. In addition, the project owner shall develop for the approval of the CPM an agricultural management plan describing long-term management of the agricultural operation on the property. The mitigation plan shall include on-site preservation of any agricultural land on the property not converted for the power generation facility, and payment of a mitigation fee for the conversion of agricultural land pursuant to the applicable criteria and protocol of the American Farmland Trust (AFT).

The project owner shall submit an agricultural mitigation plan to the CEC Compliance Project Manager (CPM) for approval. The plan shall specify measures to be taken to ensure the continuing quality and viability of agricultural land and operations. The agricultural mitigation plan shall:

1) describe the long-term management including funding, endowment, maintenance, and monitoring;

2) explain how the project owner is mitigating for the conversion of 9 acres of agricultural land to a non-agricultural use for the construction of the power generation facility;

3) include details as to how the on-site preservation of agricultural land on the subject property is not converted for the power generation facility (i.e., approximately the remaining 31 acres of the proposed site parcel) is to occur;

4) explain the project owner's off-site mitigation involving one or both of the following: 1) the purchase of comparable lands or agricultural conservation easements near agricultural lands at a one-to-one ratio of agricultural land converted by the applicant; or 2) payment of monies to the AFT to allow San Joaquin County to develop a mitigation program for the loss of agricultural farmland. In the event that the project owner chooses the payment of fees to AFT, appropriate mitigation

would include the fees to be held by AFT, in trust, in an interest bearing account for a three year period to allow San Joaquin County to develop a mitigation program for the loss of agricultural farmland. At the end of the three years, AFT shall distribute the funds to San Joaquin County, or in the event that San Joaquin County has not approved of a program for the loss of agricultural land, then AFT shall be allowed to retain the funds.

Protocol: The project owner shall submit the mitigation plan for the project to the Director of the San Joaquin County Planning Department for review and comment and the CPM for review and approval. The Director will have 30 calendar days to review and provide written comments to the CPM to review for approval. The 30-day review period shall begin the day the mitigation plan is submitted to the County Planning Department by the project owner.

**Verification:** Sixty (60) days prior to the start of site mobilization, the project owner shall provide the CPM with the finalized agricultural mitigation plan. The final plan shall include a copy of any final agreement signed between the project owner and the County of San Joaquin, American Farmland Trust, or other agency or non-profit organization that is publicly recognized to hold agricultural conservation easements for approval by the CPM.

The project owner shall provide to the CPM in a monthly compliance report a copy of the executed agricultural conservation easements and/or receipt for the payment of monies to an agricultural land mitigation trust account to demonstrate the applicant's fulfillment of their mitigation requirement for approval, if applicable.

## B. TRAFFIC AND TRANSPORTATION

Construction and operation of the project have the potential to adversely impact the transportation system in the project vicinity. During the construction phase, large numbers of workers arriving and leaving during peak traffic hours and transportation of large pieces of equipment could increase roadway congestion and affect traffic flow. Trenching and other activities associated with building the linear facilities may also be disruptive. During plant operation, there is reduced potential for impacts due to the limited number of vehicles involved.

The evidentiary record contains a review of the roads and routings that will be used; the potential traffic problems associated with those routes; the anticipated number of deliveries of oversized/overweight equipment; 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 project site is located in an unincorporated portion of San Joaquin County, immediately southwest of the city of Tracy and approximately 20 miles southwest of the city of Stockton. Regional access to the site from the north is provided by Interstate 5 (I-5), which runs north-south through San Joaquin County approximately four miles east of the site. Interstate 580 (I-580) provides regional access from Alameda County to the east. I-580 is located approximately one-mile west of the project site, running diagonally to I-5 and connecting with I-5 southwest of the project site. I-580 connects with Interstate 205 (I-205) to the northwest of the project site. I-205 runs east-west through San Joaquin County and is approximately two-miles north of the project site. State Route 132 (SR-132) is a four-lane freeway that runs east-west in San Joaquin County between I-580 and I-5. (Ex. 1, § 8.10.2.1; Ex. 4, p. 5.9-3.)

Access from the previously mentioned state routes to the project site will be provided by a number of local roadways, including Patterson Pass Road, W. Schulte Road, Lammers Road, Valpico Road, and Corral Hollow Road. Travelers from the Bay Area can take I-580 east to I-205, exit southbound onto Patterson Pass Road, then turn east onto W. Schulte Road and proceed to the access road and project site. Alternatively, travelers from the Bay Area can exit northbound on Patterson Pass Road, turn east onto W. Schulte Road and proceed to the project site. Travelers from the Stockton/Sacramento areas can take I-5 south to I-205 west, exit southbound onto Patterson Pass Road, turn east onto W. Schulte Road, and proceed to the project site. Travelers from areas south of the project site (e.g., Stanislaus and Merced Counties) can take I-5 north or SR-132 east and merge onto I-580 north, exiting at Corral Hollow Road, turning west onto Valpico Road, north onto Lammers Road and west onto W. Schulte Road to arrive at the project site.

The operating conditions of a roadway system are described using the term "levels of service" (LOS). The LOS criteria and performance standards for highways in the project area are established by Caltrans. LOS criteria for local roadway segments are defined in the San Joaquin County 1998 Regional Transportation Plan Final EIR. (Ex. 1, §§ 8.10.2.1, 8.10.2.2.) LOS measurements represent the flow of traffic, ranging from level A (free flowing traffic) to level F (heavily congested with stoppage of traffic flow). According to Caltrans policy, LOS D is an acceptable level of traffic flow, whereas LOS E and F are considered unacceptable. (Ex. 4, p. 5.9-8.) LOS criteria for local roadways in the project vicinity are similar to those established by Caltrans for state highways. (Ex. 1, § 8.10.2.2.)

**Table 1**, replicated below, identifies the current traffic characteristics of state highways in the project area. **Table 1** indicates that all of the state roadways potentially affected by the proposed Tracy Peaker Project (TPP) are operating at or above LOS D during the peak commute hours. The state highways in the

vicinity of the TPP are below the state averaged for similar roadways. (Ex. 4, p. 5.9-3)

**Table 1**

**CURRENT TRAFFIC CHARACTERISTICS OF STATE HIGHWAYS IN THE PROJECT AREA**

| **Milepost (County)[a]/ Location** | **Total # of Lanes Both Directions** | **AADT[b]** | **Peak Hour Traffic (2-way)[b]** | **Annual Average Daily Truck Traffic[c]** | **% of Truck Traffic[c]** | **Peak-Hour Highway Capacity Per Lane[d]** | LOS |
|---|---|---|---|---|---|---|---|
| **Interstate 580** | | | | | | | |
| 8.27-5.98 (*ALA*) Livermore, Greenville Rd. to North Flynn Rd | 8 | 117,000 | 9,000 | 11,000 | 9.4% | 2,048 | B |
| 5.98-1.48 (ALA) North Flynn Rd. to Grand Line Rd. | 8 | 117,000 | 9,000 | 11,000 | 9.4% | 2,048 | B |
| 1.48-0.39 (ALA) Grand Line Rd. to I-205 | 8 | 112,000 | 8,600 | 14,000 | 12.5% | 2,048 | B |
| 0.39-0.09 (ALA) I-205 to Alameda/San Joaquin Co. Line | 4 | 28,500 | 2,850 | 4,700 | 16.5% | 2,048 | A |
| 15.34-approx. 13.5 (SJ) Alameda/San Joaquin Co. Line to Patterson Pass Rd. | 4 | 28,500 | 2,850 | 4,700 | 16.5% | 2,048 | A |
| 8.15-4.34 (SJ) Corral Hollow Rd. to SR-132 | 4 | 32,500 | 3,350 | 5,360 | 16.5% | 2,048 | A |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 4.34-0.0 (SJ) SR-132 to I-5 (begin Freeway) | 4 | 19,100 | 2,000 | 4,010 | 21% | 2,048 | A |
| **Interstate 205** | | | | | | | |
| 0.21-0.0 (ALA) I-580 to Alameda/San Joaquin Co. Line | 5 | 83,000 | 5,100 | 16,600 | 20% | 2,048 | B |
| 0.0-1.38 (SJ) Alameda/San Joaquin Co. Line to Patterson pass Rd. | 4 | 83,000 | 5,100 | 16,600 | 20% | 2,048 | C |
| 1.38-3.37 (SJ) Patterson Pass Rd. to Old Route 50 | 4 | 90,000 | 5,500 | 18,000 | 20% | 2,048 | C |
| **Milepost (County)[a]/ Location** | **Total # of Lanes Both Directions** | **AADT[b]** | **Peak Hour Traffic (2-way)[b]** | **Annual Average Daily Truck Traffic[c]** | **% of Truck Traffic[c]** | **Peak-Hour Highway Capacity Per Lane[d]** | LOS |
| 3.37-8.13 (SJ) Old 0Route 50 to MacArthur Dr. | 4 | 81,000 | 4,650 | 9,320 | 11.5% | 2,048 | C |
| 8.13-12.69 (SJ) MacArthur Dr. to I-5 | 4 | 82,000 | 8,100 | 9,430 | 11.5% | 2,048 | C |
| **Interstate 5** | | | | | | | |
| 22.99-0.0 (STA) Ingram Creek (Howard Rd.) to Stanislaus/San Joaquin Co. Line | 4 | 24,900 | 3,950 | 7,600 | 30.5% | 2,048 | B |
| 0.0-0.63 (SJ) Stanislaus/San Joaquin Co. Line to I-580 | 4 | 24,900 | 3,950 | 6,920 | 27.8% | 2,048 | B |
| 12.62-14.83 (SJ) I-205 to SR-120 | 6 | 125,000 | 10,100 | 28,000 | 22.4% | 2,048 | D |
| **State Route 132** | | | | | | | |
| 0.0-3.24 (SJ) I-580 to I-5 | 4 | 15,000 | 1,650 | 2,420 | 16.1% | 1,984 | A |

a ALA = Alameda County; SJ = San Joaquin County; STA = Stanislaus County
b 2000 Traffic Volumes on CA State Highways (Caltrans, 2001)
c Percent of Truck Traffic - % of year 2000 AADT (based on estimates from most current vehicular volumes).
d Highway capacity values represent maximum number of passenger car per hour per lane (pcphpl), based on a LOS D Maximum Service Flow Rate. Capacities calculated from the Highway Capacity manual (TRB, 1997) using peak hour traffic, truck percentages, directional distributions (Caltrans, 1999) and lane counts from the 1997 Route Segment Report (Caltrans, 1997).

Table 2, replicated below, identifies the number of lanes for each roadway segment, annual average daily traffic (AADT), estimated peak-hour traffic, and percentage of truck traffic for each local roadway proposed for use during the construction and operational phases of the project. (Ex. 1, § 8.10.2.2.) Actual peak traffic counts for the above mentioned local roadways are not available since the county does not keep comprehensive data on all local roadways in the vicinity of the site. However, these roadways still must comply with the county standard LOS D or better. (*Ibid*; Ex. 4, p. 5.9-8.) When calculating traffic characteristics of the local roadways Applicant assumed peak hour volumes were 10 percent of the annual average daily traffic (AADT) or approximately 500 vehicles. (Ex. 1, p. 8.10-26, Table 8.10-4.) The San Joaquin County Planning Department and Staff concurs with the applicant's estimates of peak volumes for the local roadways. (Ex. 4, p. 5.9-4.)

**Table 2**
**EXISTING TRAFFIC CHARACTERISTICS OF LOCAL ROADWAYS IN THE IMMEDIATE VICINITY OF THE GWF TRACY PEAKER PROJECT**

| **Roadway / Location** | **Number of Lanes Both Directions** | **AADT** | Estimated Peak Hour Traffic **(2-way)**[a] | **% of Truck Traffic in AADT** | **Peak-Hour Roadway Capacity Per Lane** | LOS |
|---|---|---|---|---|---|---|
| **Patterson Pass Road** | | | | | | |
| I-580 to Schulte Rd. | 2 lane | 5,000 | 500 | 50% | N/A | N/A |
| Schulte Rd. to I-205 | 2 lane | 5,000 | 500 | 50% | N/A | N/A |

| | | | | | | |
|---|---|---|---|---|---|---|
| **W. Schulte Road** | | | | | | |
| Patterson Pass Rd. to Delta-Mendota Canal/ Hansen Rd. | 4 lane | 7,500 | 750 | 50% | N/A | N/A |
| Delta-Mendota Canal/Hansen Rd. to TPP access road | 2 lane | 7,500 | 750 | 50% | N/A | N/A |
| TPP access road to Lammers Rd. | 2 lane | 7,500 | 750 | 50% | N/A | N/A |
| **Lammers Road** | | | | | | |
| Schulte Rd. to Valpico Rd. | 2 lane | 2,500 | 250 | 3% | N/A | N/A |
| **Valpico Road** | | | | | | |
| Lammers Rd. to Corral Hollow Rd. | 2 lane | 2,000 | 200 | 3% | N/A | N/A |
| **Corral Hollow Road** | | | | | | |
| Valpico Rd. to I-580 | 2 lane | 6,000 | 600 | 3% | N/A | N/A |

Source: Sukh Chahal, San Joaquin County Community Development Department, 2001

N/A = Not Available

a Actual peak hour traffic volumes not available. Peak hour volumes assumed to be 10% of AADT.

There are two railroad facilities in the immediate vicinity of the TPP. A Western Pacific line runs east-west and is located approximately 1 mile southwest of the project site. A Union Pacific line runs east-west and is adjacent to the site's northern boundary. The Union Pacific line is used for occasional, infrequent deliveries to Musco Olives, the Tesla Substation and Owens-Brockway. This line

will provide some equipment deliveries to the project site. A proposed access road for the project will cross the Union Pacific line. Applicant has indicated that an easement is being negotiated for the access road crossing. Condition **TRANS-8** will ensure the crossing at the access road is improved in compliance with all applicable LORS. (Ex. 4, p. 5.9-4.) There are no bus routes or bike trails directly serving the TPP sit or surrounding vicinity. (Ex. 2, § 3.10.2.)

1. Construction Impacts

Commuter Traffic. Construction of the TPP will take approximately 11-months[49] and will require an average daily construction workforce of 113 workers. During the peak construction period an estimated 178 workers will be required daily for the power plant. (Ex. 4, p. 5.9-6; Ex. 1, § 8.10.3.2.) Applicant assumed that a majority (up to 50 percent) of workers would commute from areas west of the site (i.e., San Francisco Bay Area counties, including Alameda, Contra Costa and Santa Clara) via I-580 and that 25 percent would come from areas north and east of the site (i.e., the Stockton and Sacramento metropolitan areas) via I-205. Applicant assumed the remaining 25 percent of the construction workforce would commute from areas south and east of the project site (i.e., Modesto/Stanislaus County and Merced/Merced County) via I-580 from I-5 and SR-132. (Ex. 1, § 8.10.3.2.) Applicant also assumed that 80 percent of the workforce would travel alone and that the remaining 20 percent would carpool. (Ex. 4, p. 5.9-6; Ex. 1, § 8.10.3.2.)

Based on the projected numbers of workers, the average workforce will generate approximately 102 peak hour and 204 total daily vehicle trips during the off peak construction period, and 160 peak hour and 320 total daily vehicle trips at the peak construction period. (Ex. 1, § 8.10.3.2.) These vehicle trips will increase the peak-hour traffic on state highways only slightly. The increase will be

[49] For purposes of analyzing vehicle traffic generated by the actual physical construction of the TPP, Applicant identified a seven month "active" construction period (months 2 through 8) out of

approximately 1.4 percent on I-580 and less than 1 percent on all other state highways. This increase will not result in any change or decrease in LOS; therefore, the impact is expected to be less than significant. (Ex. 4, p. 5.9-6.)

Construction workforce traffic will increase local traffic volumes by approximately 16 percent on Lammers and W. Schulte Roads and up to 20 percent on Valpico Road.[50] This increase will be temporary and heaviest during the "active" portion of the construction schedule but will not decrease the current LOS to an unacceptable level. Therefore, the construction impacts on local roadways are expected to be less than significant. To ensure that the impact of construction workforce travel to local roadways is minimal, **TRANS-7** addresses the construction workforce travel routes and ridesharing and requires that the project's construction workers arrive and depart during off peak traffic times. (Ex. 4, p. 5.9-6.)

Use of a temporary access road proposed by Applicant as part of its Wet Weather Construction Contingency Plan will result in minor, interim changes to workforce travel routes and material deliveries. The temporary access will not increase traffic volumes on state or local roadways to an unacceptable level; therefore, its affect will be less than significant. (Ex. 4, p. 5.9-7.)

Truck Traffic. An estimated 1,500 truck deliveries will be made to the project site over the course of the 11-month construction period (on average 210 truck deliveries per month, with a high of up to 330 deliveries per month throughout the peak construction period). This would increase truck traffic in the vicinity by approximately 18 truck trips per day during the overall construction period and up to 27 truck trips per day during the peak construction period. Thus the project

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the overall 11 month site preparation/construction/startup period anticipated for the TPP. (Ex. 1, § 8.10.3.2.)

[50] With an estimated work schedule between 6 a.m. and 6 p.m. Monday through Saturday, the workforce traffic will occur six days a week between the hours of 5:00-6:00 a.m. and between 6:00-7:00 p.m.

will incrementally increase the amount of truck traffic in the area and cause additional wear; however, the increase will be temporary. Therefore, the impacts on roadways in the vicinity of the project will not be significant. (Ex. 4, p. 5.9-7.)

Linear facilities. The construction of linear facilities for the TPP project will be on site or within existing, adjacent facilities. Therefore, neither construction nor routine maintenance of the linears is expected to affect traffic levels in the area, and no linear-related traffic and transportation impacts are anticipated. (Ex. 4, p. 5.9-7.)

2. Operational Impacts

Commuter Traffic. The operations phase of the project will generate eight additional daily trips on local roadways for on-site personnel (four workers, two trips a day) during a 24-hour period. Adequate parking for the employees will be provided on site. This increase will have a less than significant impact on state and local roadway since all affected roadways are currently operating well within an acceptable LOS. (Ex. 4, p. 5.9-7; Ex. 1, § 8.10.3.3.)

Truck Traffic. Truck traffic during the operational phase will consist mostly of hazardous material deliveries to the site. The most frequent delivery will be that of aqueous ammonia every four days. Condition **TRANS-3** requires Applicant to follow all federal and state LORS for the handling and transportation of hazardous materials. Therefore, no impact from delivery of hazardous materials is expected. The remaining deliveries will be on a monthly or annual basis and will have a minimal impact on the area roadways. (*Ibid*.) Due to the limited amount of truck traffic associated with the operational phase of the project, impacts from truck traffic on project area roadways will be less than significant.

Air Traffic. Although there are no major commercial aviation centers in the area of the TPP, the Tracy Municipal Airport is approximately two miles southwest of the project site. The project is within the airport's area of influence and may

penetrate or cause a projection into navigable airspace. Condition **TRANS-9** will ensure that the project will not be a hazard to air navigation nor exceed obstruction standards; therefore, no impacts on air traffic are expected. (Ex. 4, p. 5.9-13.)

3. Cumulative Impacts

There are a number of proposed or planned projects in the vicinity of the TPP, including the Wellhead 49 MW peaking power plant on S. Lammers Road in Tracy, an automobile auction facility in Tracy, approximately three miles from the project site and two proposed power generation facilities, the Tesla Power Project approximately 14 miles northwest of the TPP and the East Altamont Energy Center, approximately 8 miles to the northwest of the TPP. The peak construction periods for the Tesla Power Project and the East Altamont Energy Center are expected to take place outside the peak construction period for the TPP. The evidence indicates that the regional highways can accommodate the additional commuter and truck traffic without impacts to existing LOS. Therefore, staff does not expect the TPP to change current or future traffic patterns, including those for the other proposed power projects, or cumulatively affect the transportation network. (Ex. 4, p. 5.9-15.)

The immediate vicinity of the project is also experiencing an increase in new residential projects and developments, which is having an incremental impact on the local roadway system. The TPP construction schedule is not expected to conflict with any planned, proposed, or approved projects in the vicinity, and the operational phase of the project is expected to have only a minor temporary impact. Therefore, the project's cumulative impact on the transportation system will be less than significant. (*Ibid*.)

A number of state highway, interchange and roadway improvements are planned in the general vicinity of the project site. However, no major improvements are

scheduled concurrently with project construction that would collectively increase traffic volumes or substantially degrade the transportation system. (*Id*.)

Applicant and Staff agreed that the project's traffic impacts, including potential cumulative impacts, will be insignificant compared with available highway capacities and LOS levels. (Ex. 4, p. 5.9-15; Ex. 1, § 8.10.)

**FINDINGS AND CONCLUSIONS**

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

1. Construction and operation of the Tracy Peaker Project will cause increased traffic on roadways in the local and regional areas.

2. The roadway capacities in the local and regional areas are sufficient to accommodate the increased traffic resulting from construction and operation of the project.

3. Impacts upon traffic and roadway conditions due to construction activities will be temporary and not significant.

4. Impacts upon traffic and roadway conditions due to the movement of workers and of materials during the operational phase of the project will be minimal.

5. Potential cumulative impacts to traffic resulting from construction and operation of the project will be insignificant.

6. Potential adverse impacts associated with the transportation of hazardous materials will be mitigated to insignificant levels by compliance with applicable laws.

7. Implementation of the Conditions of Certification, below, ensures that construction and operation of the Tracy Peaker Project will comply with applicable laws, ordinances, regulations, and standards on traffic and transportation as identified in the pertinent portions of APPENDIX A.

The Commission therefore concludes that construction and operation of the project will not result in any significant, direct, indirect, or cumulative adverse impacts to the regional transportation system.

## CONDITIONS OF CERTIFICATION

**TRANS-1** The project owner shall comply with the California Department of Transportation (Caltrans) and the County of San Joaquin on limitations on vehicle sizes and weights. In addition, the project owner or their contractor shall obtain necessary transportation permits from Caltrans and all relevant jurisdictions for 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 to the Compliance Project Manager (CPM). 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** An access road approximately one-mile in length is proposed for the TPP project. The project applicant shall meet with the San Joaquin County Public Works and Fire Departments to determine the applicable road standards regarding improvements to the existing dirt access road.

**Verification**: At least 60 days prior to the start of earth moving activities, the project owner shall provide to the CPM a copy of the construction plan for the access road.

**TRANS-3** The project owner shall ensure that all federal and state regulations for the transportation of hazardous materials are observed during both construction and operation of the facility and that all permits and/or licenses are secured from the California Highway Patrol and Caltrans for the transportation of hazardous material.

**Verification**: The project owner shall include in its Monthly Compliance Reports to the CPM copies of all permits and licenses acquired by the project owner and/or subcontractors concerning the transportation of hazardous substances.

**TRANS-4** The project owner or its contractor shall comply with the County of San Joaquin and Caltrans limitations for encroachment into public rights-of-way and shall obtain necessary encroachment permits from Caltrans and all relevant jurisdictions.

**Verification:** In the Monthly Compliance Reports, the project owner shall submit copies of any encroachment permits received during that reporting period to the CPM. 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-5** The project owner shall designate travel routes for construction workers and truck deliveries in consultation with the County of San Joaquin and Caltrans.

**Verification**: The project owner shall provide a copy of the designated route in its contracts for construction workers and truck deliveries, and maintain copies onsite for inspection by the CPM.

**TRANS-6** Following completion of construction of the power plant and all related facilities, the project owner shall return all roadways to original or as near original condition as possible.

> Protocol: Prior to start of construction, the project owner shall photograph sections of public roadways that will be affected by project construction traffic. The project owner shall provide the CPM and the affective jurisdiction (County of San Joaquin and /or Caltrans) with copies of these photographs.

**Verification:** Within 30 days of the completion of project construction, the project owner will meet with the CPM and the County of San Joaquin and Caltrans to determine and receive approval for the action necessary and schedule to complete the repair of identified sections of public roadways to original or as near original condition as possible.

**TRANS-7** Prior to the start of construction, the project owner shall consult with the County of San Joaquin and Caltrans to prepare and submit a construction traffic control plan and implementation program that addresses the following issues to the extent practical:

- timing of heavy equipment and building material deliveries:
- signing, lighting, and traffic control device placement;
- provision of a person to direct traffic if necessary for workers leaving the site during the peak period of construction;
- on-site parking for construction workers;
- construction work hours outside of peak traffic periods;
- emergency access;
- temporary travel lane closures;
- access to adjacent property, and
- requirements for construction workforce travel routes and ridesharing.

The project owner shall submit the traffic control plan to the County of San Joaquin and Caltrans for review and comments, and to the CPM for review and approval.

**Verification:** At least 30 days prior to start of construction the project owner shall provide to the CPM for review and approval a copy of its traffic control and implementation program that has been reviewed and commented on by the appropriate jurisdictions.

**TRANS-8** The Union Pacific rail line crossing located at the access road to the TPP project site shall comply with all applicable LORS for railway crossings and crossing improvements.

**Verification:** The project owner shall provide a copy of improvements plans for the access road railway crossing within 30 days prior to the start of construction that is acceptable to the County of San Joaquin and all relevant jurisdictions**.**

**TRANS-9** The project owner shall mark and/or light the project's new exhaust stacks in accordance with FAA Advisory Circular 70/7460-1K Obstruction Marking and Lighting, Chapters 3, 5, and 12.

> Protocol: The project owner shall complete FAA Form 7640-2, Notice of Actual Construction or Alteration. Said Form shall be completed and returned to the FAA Western/Pacific Region office at least 10 days prior to the construction and also within 5 days after construction reaches its greatest height. This requirement shall also be applied if at any time the project is abandon.

**Verification:** At least 30 days prior to start of commercial operation, the project owner shall submit proof that the project's stacks have been marked and/or lighted.

## 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. The California Environmental Quality Act (CEQA) requires an examination of a project's visual impacts on the environment, which, in this case, involves an assessment of 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 proposed project location is immediately southwest of the City of Tracy in an unincorporated area of San Joaquin County in the northern San Joaquin Valley. The area is generally flat and slopes gently to the northeast. It is bounded to the west by steep and rolling grass-covered coastal hills that provide a prominent backdrop to views west and south from Tracy and the general project area. The Delta-Mendota Canal and California Aqueduct run roughly parallel to each other from northwest to southeast along the valley floor near the base of the coastal hills. The heavily traveled Interstate 580 (I-580) runs along the base of the coastal hills just southwest of and roughly parallel to the aqueduct. I-580 is designated as both a county and state scenic route. Other than orchards and plantings around rural residences, there are few large trees in the area.

The area is predominately agricultural and rural in character. However, the area's character is becoming more urbanized, with rapidly expanding residential, commercial, and industrial development. Agriculture in the area consists largely of tilled fields, orchards, and grazed grasslands. Numerous rural residences dot the landscape and there are many paved and unpaved rural roads. Several large power transmission lines run through the region and many lines of wooden

power poles and fences crisscross the area. Housing developments are expanding southwest from Tracy and there are several large commercial distribution and warehouse facilities in the area. The area also contains several large industrial plants and manufacturing facilities, including the Owens-Brockway glass container manufacturing plant, Nutting Rice facility, and Tracy Biomass energy facility located just north of the 40-acre parcel. A 122-foot-high water tower is also located just north of the parcel. (Ex. 4, pp. 5.11-3 through 5.11-4; Ex. 1, § 8.11.)

Due to encroaching elements such as the large industrial facilities, water tank and transmission towers, Staff concluded the overall visual quality of the area is moderately low, despite the moderate high quality of views of orchards, agricultural fields and the coastal hills. (Ex. 4, p. 5.11-5.)

2. Project Features

The project site will occupy a 10.3-acre fenced area within a 40-acre parcel. The major visible components of the proposed project include two 100-foot-high, 16-foot-diameter exhaust stacks; two 60-foot-high SCR reactors; two combustion turbine generators (CTGs), each 30 feet high, 130 feet long and 40 feet wide; two 50-foot-high air inlet structures (one for each CTG); a 55-foot-high, 85-foot-long, 25-foot-wide air pollution control structure; a 15 to 22-foot-high, 100-foot-long, 50-foot-wide control building and a 115-kV fenced switchyard containing various structures up to 25 feet in height and some interconnecting frames and poles 75 to 100 feet in height.

The project will also include an on-site natural gas supply interconnection, a 1,470-foot-long underground water supply pipeline and an improved access road approximately 3,300 feet in length. An 8-foot-high galvanized fence with a non-reflective finish and vertical slats will surround the project site. Some

landscaping is proposed around the periphery of the fenced project site. (Ex. 4, pp. 5.11-2 through 5.11-3.)

Other elements of the project that could create visual impacts include night lighting and construction activities. No visible water vapor plumes are expected to be produced by the project.

3. Methodology

The San Joaquin County General Plan establishes applicable visual resource management policy in the project vicinity, as well as visual standards applicable to scenic highway I-580. (Ex. 4, p. 5.11-2.) Applicant and Staff conducted visual field studies to assess the visual impacts of the project from potentially sensitive vantage points. Ten Key Observation Points (KOPs) were chosen to represent the views at and around each location, the visual sensitivity of the viewers, and the visual quality of the views. (Ex. 4, p. 5.11-5 et seq.) No party presented evidence suggesting the KOPs were inappropriate or nonrepresentative.

- KOP 1 represents the view to the west from residences and by travelers along Lammers Road, about 0.75 to 1 mile east of the project site.
- KOP 2 represents the view to the east from a residence about 1.5 miles west of the project site.
- KOPs 3, 4 & 5 represent views to the northeast from three residences located approximately 1 mile southwest of the project site near the southern terminus of Hansen Road.
- KOP 6 represents the view of the transmission line crossing at I-580. (KPO 6 was eliminated because the transmission line crossing of I-580 was eliminated from the project description.)
- KOP 7 represents the view to the northeast from the access road along the northeast edge of the Delta-Mendota Canal adjacent to the project site.
- KOPs 8 & 9 represent views to the southwest from at least four residences along Lammers Road and just northeast of the intersection

on the western portion of West Schulte Road and Lammers Road, about 0.75 to 1.25 miles northeast of the project site.

- KOP 10 represents views to the northwest and north by westbound travelers on I-580. I-580 is located about 1 mile southwest of the project site.

Applicant took panoramic photographs of these viewpoints to document their existing visual features and then prepared photosimulations of the viewpoints to show project features superimposed on the original photographs. (Ex. 1, § 8.11.3.2, Figures 8.11-9 through 8.11-15; Ex. 49, § 2.9, Figures 14, 17 and 20.) Applicant and Staff relied on these simulations to determine whether project impacts would be noticeable to sensitive public views. The results of Staff's analysis are shown on the following "Tracy Peaker Project Staff Assessment-Visual Resources Summary of Analysis" replicated from Ex. 4, p. 5.11 et seq., Appendix VR-1.

# APPENDIX VR – 1
## TRACY PEAKER PROJECT STAFF ASSESSMENT - VISUAL RESOURCES SUMMARY OF ANALYSIS*

| VIEWPOINT | | EXISTING VISUAL SETTING | | | | | | | | VISUAL CHANGE | | | | | IMPACT SIGNIFICANCE | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Viewer Exposure | | | | | | | | | | | | |
| Key Observation Point (KOP) | Description | Visual Quality | Viewer Concern | Visibility | Distance Zone | Number of Viewers | Duration of View | Overall Viewer Exposure | Overall Visual Sensitivity | Description of Visual Change | Visual Contrast | Project Dominance | View Blockage | Overall Visual Change | Mitigation / Conditions | Impact Significance with Mitigation |
| **KOP 1**<br>**View West from Lammers Road and Residences**<br>**VR Figure 4** | View to the **west from several residences** along the west side of Lammers Road **and travelers on Lammers Road**. | **Moderately Low** | **High** | **High** | **Near Middleground** | **Moderately Low** | **High** | **Moderately High** | **Moderately High** | Overall visual contrast would be low; scale dominance would be subordinate & spatial dominance would be co-dominant; & view blockage would be negligible. Overall visual change would be moderate due to co-dominant spatial dominance. | **Low** | **Scale Dominance: Subordinate**<br>**Spatial Dominance: Co-Dominant** | **Low** | **Moderate** | **VIS-1**<br>**VIS-3**<br>**VIS-4** | **Potentially Significant** |
| **KOP 2**<br>**View East from Hansen Road Residence**<br>**VR Figure 5** | View to the **east from a residence near Hansen Road north of Delta-Mendota Canal**. | **Moderately Low** | **High** | **High** | **Middleground** | **Low** | **High** | **Moderately High** | **Moderately High** | Overall visual contrast would be moderately low; scale & spatial dominance would be subordinate; & view blockage would be negligible. Overall visual change would be moderately low due to moderately low visual contrast. | **Moderately Low** | **Scale Dominance: Subordinate**<br>**Spatial Dominance: Subordinate** | **Low** | **Moderately Low** | **VIS-1**<br>**VIS-3**<br>**Vis-4** | **Less Than Significant** |
| **KOPs 3, 4, 5**<br>**Views Northeast from Residences**<br>**VR Figure 6** | Views to the northeast from three residences near south terminus of Hansen Road northeast of I-580. | **Moderately Low** | **High** | **High** | **Near Middleground** | **Low** | **High** | **Moderately High** | **Moderately High** | Overall visual contrast would be moderately low; scale & spatial dominance would be subordinate; & view blockage would be negligible. Overall visual change would be moderately low due to moderately low visual contrast. | **Moderately Low** | **Scale Dominance: Subordinate**<br>**Spatial Dominance: Subordinate** | **Low** | **Moderately Low** | **VIS-1**<br>**VIS-3**<br>**Vis-4** | **Less Than Significant** |
| **KOP 7**<br>**View Northeast from Delta-Mendota Canal**<br>**VR Figure 7** | View to the northeast from the access road along the northeast edge of the Delta-Mendota Canal. | **Moderately Low** | **Moderate** | **High** | **Near Foreground** | **Low** | **Low** | **Moderate** | **Moderately Low** | Overall visual contrast would be moderately high; scale & spatial dominance would be high due to close proximity to viewers; & view blockage would be negligible. Overall visual change would be high due to high scale dominance & high spatial dominance. | **Moderately High** | **Scale Dominance: Dominant**<br>**Spatial Dominance: Dominant** | **Low** | **High** | **VIS-1**<br>**VIS-3**<br>**Vis-4** | **Less Than Significant** |
| **KOPs 8, 9**<br>**Views Southwest from Residences near Schulte Road & Lammers Road Intersections**<br>**VR Figure 8** | Views to the southwest from residences **near both intersections of Schulte Road and Lammers Road**. | **Moderately Low** | **High** | **High** | **Near Middleground** | **Moderately Low** | **High** | **Moderately High** | **Moderately High** | Overall visual contrast would be low; scale & spatial dominance would be subordinate; & view blockage would be negligible. Overall visual change would be low. | **Low** | **Scale Dominance: Subordinate**<br>**Spatial Dominance: Subordinant** | **Low** | **Low** | **VIS-1**<br>**VIS-3**<br>**Vis-4** | **Less Than Significant** |
| **KOP 10**<br>**View s from I-580**<br>**VR Figure 9** | Views to the northwest and north by west-bound travelers on I-580. | **Moderately Low** | **High** | **High** | **Middleground** | **High** | **Moderate** | **Moderately High** | **Moderately High** | Overall visual contrast would be moderately low; scale & spatial dominance would be subordinate; & view blockage would be negligible. Overall visual change would be moderately low due to moderately low visual contrast. | **Moderately Low** | **Scale Dominance: Subordinate**<br>**Spatial Dominance: Subordinate** | **Low** | **Moderately Low** | **VIS-1**<br>**VIS-3**<br>**Vis-4** | **Less Than Significant** |

* Does not include analysis of visible plumes.

4. Potential Impacts

The landscape in the general area within which the project may be visible is generally flat and has few obstructions (e.g., trees or topographic features) to block views. Therefore, the power plant would be most visible and noticeable from roads, residences, and I-580 by viewers within the foreground and near middleground distance zones (i.e., within approximately 1 mile of the project site). Views from residences in the area (there are approximately 27 residences within 1 mile of the project site) and westbound travelers on scenic-designated I-580 would be of greatest concern because of the higher sensitivity of these viewer groups.

Staff's analysis indicates that visual quality for KOPs 1, 2, 3, 4, 5, 8 and 9 (all of which represent views from residences)[51] is moderately low because views from these locations lack complexity and are dominated by encroaching industrial elements. However, viewer concern is high at all of these KOPs because of the sensitivity with which people regard their places of residence. Viewer exposure is moderately high, despite a relatively low number of viewers, because visibility is high (i.e., views toward the site from many of the residences are unobstructed), frequency of views by residents is high and views are of long (high) duration. Consequently, Staff concluded overall visual sensitivity of the setting viewed from KOPs 1, 2, 3, 4, 5, 8, and 9 is moderately high. (Ex. 4, pp. 5.11-6 through 5.11-10.)

[51] Intervenor Sarvey and Intervenor Tuso (through counsel) questioned Applicant regarding whether it had investigated the visual impacts on specific existing residences that were not identified as KOPs. Applicant indicated the KOPs were a representative sample of visual impacts on views from residences in the vicinity of the KOPs, and would include views from non-KOP residences. (3/13/02 RT, pp. 18-23.)

The visual quality of KOP 7 is similarly moderately low because views lack visual complexity and contain evident industrial elements. Viewer concern is moderate since KOP 7 represents the view from a public access road that is used only occasionally by recreationists, and which already contains dominant industrial elements. Viewer exposure is moderate, even though visibility is high, since frequency of views is low and duration of views short (low). (It is assumed viewers would be traveling past the project site.) Consequently, Staff concluded overall visual sensitivity for KOP 7 is moderate. (Ex. 4, p. 5.11-9.)

KOP 10 represents views toward the project site by westbound travelers on I-580. Westbound travelers have mostly open views of the project site for approximately 1-1/2 miles. (3/13/02 RT, p. 14.) Eastbound travelers have few and intermittent views of the project site. The visual quality of KOP 10 is moderately low, even though the views have some visual interest and variety, because views are dominated by encroaching and incongruous structures. Viewer concern is high, however, because I-580 is a designated state and county scenic route, and is used by a broad cross section of travelers, many of who have a high awareness of their surroundings and are conscious of their visual environment. Viewer exposure is moderately high since visibility and frequency of views are high, but duration of views is moderate when travel speed and length of views are considered jointly. Consequently, Staff concluded overall visual sensitivity for KOP 10 is moderately high. (Ex. 4, pp. 5.11-10 through 5.11-11.)

Short term visual impacts during construction of the proposed power plant and linear facilities will result from the temporary presence of equipment, vehicles, materials, excavated piles of dirt, and workforce. Construction activities will include site clearing and grading, trenching, construction of actual facilities, use of construction laydown areas, and cleanup and restoration of the site, laydown areas, and linear facilities rights-of-way. Project construction will occur over approximately a 7-month period. Because Applicant will restore the construction

laydown area to its original condition and because construction activities will be temporary (i.e., last less than a year), Staff expects potential visual impacts associated with construction of the project to be less than significant. (Ex. 4, p. 5.11-13 through 5.11-14.)

The addition of the project's linear facilities will not cause significant visual impacts. The electric transmission line interconnection and natural gas supply line will be constructed at the same time and will appear to be a part of the plant itself. There will be no visible evidence of the underground water supply line. The access road, which will be paved to provide access to the project site, will follow an existing road alignment and the change from the existing condition will therefore be minimal. (Ex. 4, pp. 5.11-13 through 5.11-14.)

No wet cooling equipment is proposed for the project; therefore the project will not cause any cooling-related visible plumes. Although there is the potential that other visible phenomena may be observed, such as heat distortion of the view directly through the exhaust plume, the effect would be extremely minor for middle and foreground views. Staff thus does not expect this effect to cause a significant adverse visual impact. (Ex. 4, p. 5.11-25.)

There is no evidence that the project will contribute to cumulative visual impacts in the area. (Ex. 4, p. 5.11-27.)

5. Mitigation

Staff's analysis of the original landscaping plan presented by Applicant found that the heights, density and placement of the proposed landscaping would not be effective in blending the power plant with its surroundings or in screening the power plant from view in the area of KOP 1. The Applicant revised its conceptual landscaping plan to include additional landscaping along the northern and eastern sides of the project site, and to address concerns expressed by the

United States Fish and Wildlife Service with regard to the potential migration of San Joaquin kit fox.[52] (3/13/02 RT, pp. 15-16.) Staff expects that the additional landscaping will provide sufficient screening such that visual impacts for the view area represented by KOP-1 will be less than significant. (3/13/02 RT, p. 73.)

Staff has proposed Condition **VIS-1,** which would require further development and improvement of the project's landscape plan, to ensure that plantings will be more effective in blending the project with its surroundings and in screening the project from view to the extent possible. (The ability to provide plantings to blend and screen views from the east is constrained by existing and proposed transmission lines.) (Ex. 17, pp. 3.10-1 through 3.10-2.1.) Condition **VIS-1** requires the project owner to submit its perimeter landscape plan to San Joaquin County for review, and to implement a revised perimeter landscape plan as soon as possible during construction. It also provides that plantings shall screen views to the greatest extent possible from I-580 and other KOPs and requires, among other things, the use of fast and tall growing evergreen species to achieve maximum screening as soon as possible. Where constrains such as electric lines exist the project owner must use species that will attain the tallest height feasible given those constraints. Use of additional trees and shrubs with more moderate growth rates and sizes is also encouraged to create a varied and aesthetic visual effect and screening. (Ex. 17, p. 3.10-3.)

Staff testified that it will take 10 to 15 years for the landscaping plan to mitigate the visual impacts from the project to a level of insignificance, but that the mitigation will be partially effective prior to that time. Intervenor Sarvey suggests that this is insufficient mitigation because of the length of time it will take for the proposed mitigation to achieve its goals. (3/13/02 RT, pp. 100-101.) However, as explained by Staff, the intent of mitigation for projects such as this one is not

[52] At the request of the US Fish and Wildlife Service an approximately 300-foot buffer will be established by the project owner on the western portion of the parcel to allow unfettered movement of this threatened species. Thus, there is no screening between the Delta-Mendota

necessarily to fully screen the project or fully block views of it, but to partially screen and help blend the project with its surroundings. (3/13/02 RT, pp. 65-66, 96-97.) The proposed landscaping will provide at least partial screening prior to the time the mitigation is fully effective. (3/13/02 RT, pp. 100-101.) In addition, as previously discussed, Condition **VIS-1** requires Applicant to implement a revised perimeter landscape plan that incorporates the use of tall, fast growing plantings in order to screen views to the greatest extent possible as quickly as possible. The plan must be approved in advance by the CPM and implemented as soon as possible during construction. The Commission is therefore persuaded that with implementation of Condition **VIS-1** the potential visual impacts will be less than significant.

Staff indicated that lighting for the project has the potential to create a new source of substantial light and glare, which would adversely affect day or nighttime views in the area. (Ex. 4, p. 5.11-25.) To minimize potential visual impacts of nighttime light and glare Applicant proposed measures that would include shields and hooded night lighting to direct illumination downward and inward. To minimize daytime glare from reflective finishes, surface finishes for the project will primarily be painted steel and a minimal number of features will be galvanized steel and aluminum surfaces. The colors of project structures will be neutral earth tones to blend with existing facilities and the background of existing vegetation; fencing will be constructed with non-reflective materials. (*Ibid*.) Staff accepted these proposals and recommended additional measures to reduce potential impacts to less than significant. Conditions **VIS-3, VIS-4** and **VIS-5** require the project owner to implement these measures.

If the project were unmitigated it would be inconsistent with four General Plan policies addressing preservation of visual quality along scenic routes, landscaping requirements for development along scenic routes, blending new

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Canal and the power plant. (3/13/02 RT, pp. 24, 27; see Biological Resources for further discussion regarding the San Joaquin kit fox.)

development with its setting, and considering aesthetics when reviewing development proposals. Staff has recommended Conditions of Certification **VIS-1, VIS-2, VIS-3, and VIS-4** to mitigate these concerns and ensure compliance with applicable LORS. The Commission has adopted Staff's recommendations.

## FINDINGS AND CONCLUSIONS

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

1. The Tracy Peaker Project (TPP) is located in an unincorporated portion of San Joaquin County in a predominantly rural agricultural area.

2. Project components that could result in visual impacts include the combustion turbine generators and exhaust stacks, SCR reactors, inlet air structure, air pollution control structure, control building, switchyard and night lighting.

3. The project has the potential to cause significant adverse visual impacts to views, but with implementation of the Conditions of Certification it will not result in significant visual impacts at key observation points, or the surrounding locale.

4. The project will not significantly degrade the general visual character of the area.

5. There may be temporary visual impacts during construction of the project, but no permanent visual impacts will result from activities.

6. No visible water vapor plumes will be produced by the project.

7. There is no evidence of potential cumulative visual impacts with the addition of TPP in the viewshed.

8. Implementation of the Conditions of Certification will reduce the projects visual impacts to less than significant levels in the area.

9. Implementation of the Conditions of Certification, below, will insure that the TPP complies with all applicable laws, ordinances, regulations, and standards relating to visual resources as identified in the pertinent portions of APPENDIX A of this Decision.

The Commission concludes that the implementation of the mitigation measures contained in the Conditions of Certification and otherwise described in the record of evidence will ensure that the Tracy Peaker Project will not cause significant adverse impacts to visual resources.

## CONDITIONS OF CERTIFICATION

**VIS-1** Prior to start of commercial operation and as early as possible during the construction period, the project owner shall implement an approved revised perimeter landscape plan to help blend the project with its surroundings and to screen the project from public view to the extent feasible. The plan shall indicate types, quantities, sizes, arrangements, and placements of plants in a manner that shall screen views of the power plant to the greatest extent feasible from I-580 and other KOPs identified for this project. Landscaping shall consist of a mix of trees and shrubs. The use of fast- and tall-growing, evergreen species suitable to the local growing and weather conditions shall be emphasized to ensure that maximum screening is achieved as quickly as possible and year-round. Where constraints such as electric lines exist, species that will attain the tallest height feasible considering the constraints shall be used. The use of additional trees and shrubs with more moderate growth rates and sizes are encouraged to create a varied and aesthetic visual effect and screening. Suitable irrigation shall be installed and maintained to ensure survival of the plantings.

Protocol: Prior to start of construction, the project owner shall submit a perimeter landscape plan to the County of San Joaquin for review and comment, and to the Compliance Project Manager (CPM) for review and approval. The plan shall include, but not be limited to:

a) A detailed landscape and irrigation plan, at a reasonable scale, which includes a list of proposed tree and shrub species and installation sizes, and a discussion of the suitability of the plants for the site conditions and mitigation objectives. A list of potential tree species that would be viable in this location shall be prepared by a qualified licensed landscape architect or certified arborist familiar with local growing conditions, with the objective of providing the widest possible range of species from which to choose. The plan shall demonstrate how the screening conditions called for above shall be met, including evidence provided by a qualified licensed landscape architect or certified arborist that the species selected are both viable and available.

b) Maintenance procedures, including any needed irrigation and a plan for routine annual or semi-annual debris removal for the life of the project; and

c) A procedure for monitoring for and replacement of unsuccessful plantings for the life of the project.

Protocol: The project owner shall not implement the plan until the project owner receives approval of the plan from the CPM.

**Verification:** At least 30 (thirty) days prior to start of construction, the project owner shall submit the revised perimeter landscape plan to San Joaquin County for review and comment and to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 15 (fifteen) 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 7 (seven) days after completing installation of the landscape screening that the planting and irrigation system are ready for inspection.

The project owner shall report landscape maintenance activities, including replacement of dead vegetation, for the previous year of operation in the Annual Compliance Report.

**VIS-2** The project owner shall ensure that visual impacts of project construction are adequately mitigated by implementing the following measures:

- Staging, material, and equipment storage areas, if visible from public rights-of-way, shall be visually screened with opaque fencing.

- All evidence of construction activities, including ground disturbance due to staging and storage areas, shall be removed and remediated upon completion of construction. Any vegetation removed in the course of construction shall be replaced on a 1-to-1 in-kind basis. Such replacement planting will be monitored for a period of three years to ensure survival. During this period, all dead plant material shall be replaced.

Protocol: The project owner shall submit a plan for:

a) screening construction activities at the site and staging, material, and equipment storage areas;

b) restoring the surface conditions of staging, material, and equipment storage areas; and

c) restoring any rights-of-way disturbed during construction of the transmission line and underground pipelines. The plan shall include grading to the original grade, and contouring and revegetation of the rights-of-way.

Protocol: The project owner shall not implement the plan until receiving written approval of the submittal from the California Energy Commission Compliance Project Manager (CPM).

**Verification:** At least 60 (sixty) days prior to the start of site mobilization, the project owner shall submit the plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 (thirty) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within 7 (seven) days after installing the screening that the screening is ready for inspection.

The project owner shall notify the CPM within 7 (seven) days after completing the surface restoration that the areas disturbed during construction are ready for inspection.

**VIS-3** Prior to first turbine roll, the project owner shall treat project structures, including the transmission facilities, and buildings in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape, and shall treat those items in non-reflective, appropriately textured finishes. The project owner shall ensure that the transmission facilities use non-specular conductors, and non-reflective and non-refractive insulators. A specific treatment plan shall be developed for review and comment by San Joaquin County and for CPM review and approval to ensure that the proposed colors and treatment do not unduly contrast with the surrounding landscape. The plan shall be submitted sufficiently early to ensure that any pre-colored buildings, structures, and linear facilities will have colors approved and included in bid specifications for such buildings or structures.

Protocol: The treatment plan shall include the following requirements:

a) The switchyard equipment shall have a neutral gray finish.

b) The power poles and other facilities for electric transmission shall be treated with a galvanized neutral gray finish.

c) For any galvanized steel, aluminum, or other highly reflective surfaces that must be used and would be visible from beyond the project site, the visible surfaces shall be treated with an approved dulling agent that would accelerate the process of surface oxidation, corrosion, or dulling.

d) Specification, and 11" x 17" color simulations, of the treatment proposed for use on project structures, including structures treated during manufacture.

e) A list of each major project structure, building, and tank, specifying the color(s) proposed for each item.

f) Documentation that a non-reflective finish will be used on all project elements visible to the public.

g) Documentation that non-specular conductors, and non-reflective and non-refractive insulators will be used on the transmission facilities.

h) A detailed schedule for completion of the treatment.

i) A procedure to ensure proper treatment maintenance for the life of the project.

After approval of the plan by the CPM, the project owner shall implement the plan according to the schedule and shall ensure that the treatment is properly maintained for the life of the project.

For any structures that are treated during manufacture, the project owner shall not specify the treatment of such structures to the vendors until the project owner receives notification of approval of the treatment plan by the CPM.

The project owner shall not perform the final treatment on any structures until the project owner receives notification of approval of the treatment plan from the CPM.

The project owner shall notify the CPM after all pre-colored structures have been erected and all structures to be treated in the field have been treated and the structures are ready for inspection.

**Verification:** At least 60 (sixty) days prior to ordering the first structures that are color treated during manufacture, the project owner shall submit its proposed plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 (thirty) days of receiving that notification, the project owner shall submit to the CPM a revised plan.

Not less than 30 (thirty) days prior to the start of commercial operation, the project owner shall notify the CPM that all structures treated during manufacture and all structures treated in the field are ready for inspection.

The project owner shall provide a status report regarding treatment maintenance in the Annual Compliance Report.

**VIS-4** All fences and walls for the project shall be non-reflective and treated in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape. Fences and walls for the project shall comply with any applicable requirements of the County of San Joaquin that relate to visual resources or fencing. Fencing shall be installed around the perimeter of the facility. Perimeter fencing shall be six-foot-high, two-inch mesh non-reflective fabric chain link with sand-colored vertical PVC slats.

> Protocol: Prior to ordering fences and walls the project owner shall submit to San Joaquin County for review and comment, and to the CPM for review and approval, design specifications for fences and walls and documentation of their conformance with any requirements of San Joaquin County.
>
> The project owner shall not order fences and walls until the submittal is approved by the CPM.

**Verification:** At least 30 (thirty) days prior to ordering fences and walls, the project owner shall submit the specifications and documentation to San Joaquin County for review and comment and to the CPM for review and approval.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 30 (thirty) 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 7 (seven) days after completing installation of the fencing that the fencing is ready for inspection.

**VIS-5** Prior to first turbine roll, the project owner shall design and install all lighting such that light bulbs and reflectors are not visible from public viewing areas and illumination of the vicinity and the nighttime sky is minimized during both project construction and operation. The project owner shall develop and submit a lighting plan for the project to the County of San Joaquin for review and comment and to the CPM for review and approval. Lighting shall not be installed before the plan is approved.

Protocol: The lighting plan shall require that

a) Exterior lighting and parking lot lighting shall be provided in accordance with any local requirements.

b) Non-glare light fixtures shall be specified.

c) Lighting shall be designed so that 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 this outdoor lighting shall be such that the luminescence or light source, including all reflectors, is shielded to prevent light trespass (direct lighting extending outside the project boundary.

d) High illumination areas not occupied on a continuous basis, such as maintenance platforms, shall be provided with switches or motion detectors to light the area only when occupied.

e) All new lighting will be the minimum necessary brightness consistent with operational safety.

f) All night lighting height will be limited to avoid excessive illumination.

g) Wherever feasible and safe, lighting shall be kept off when not in use.

h) No lights shall be installed that may distract offsite motorists.

i) Remove temporary construction lighting units when no longer required.

j) Construction lighting would minimize on- and off-site glare.

k) Use of searchlights, spotlights, and floodlights is subject to review and approval by the appropriate authorities except for emergency purposes.

l) Operation of lighting equipment beyond construction hours is prohibited, except lighting for security purposes and lighting for the areas like water, telephones, fire alarms, traffic signs, parking lots, and power control cabinets.

m) Lighting of billboards and advertisements and holiday lights at the construction site is prohibited.

n) A lighting complaint resolution form (following the general format of that in Appendix VR-3) shall be used by plant operations, to record all lighting complaints received and to document the resolution of those complaints. All records of lighting complaints shall be kept in the on-site compliance file.

**Verification:** At least 90 (ninety) days before ordering the exterior lighting, the project owner shall provide the lighting plan to San Joaquin County for review and comment and to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the plan are needed before the CPM will approve the plan, within 30 (thirty) days of receiving that notification the project owner shall submit to the CPM a revised plan.

The project owner shall notify the CPM within 7 (seven) days of completing exterior lighting installation that the lighting is ready for inspection.

## D. NOISE

The construction and operation of any power plant project will create noise. The character and loudness of this noise, the time 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 this section, the Commission evaluates whether noise produced by project-related activities will be sufficiently mitigated to comply with applicable noise control laws and ordinances.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The San Joaquin County Code (Section 9-1025.9) establishes environmental noise limits for noise sensitive residential or commercial land uses receiving the noise. Noise levels at the receiving noise sensitive property line cannot exceed 50 dBA Leq during daytime hours (7:00 a.m. to 10:00 p.m.) and 45 dBA Leq during nighttime hours (10:00 p.m. to 7:00 a.m.)[53] These noise limits would apply during the operational phase of the plant. Noise from construction activities is exempt between the hours of 6:00 a.m. and 9:00 p.m. on any day. Any construction outside of these hours would have to comply with the ordinance limits identified above.

#### 1. Setting

No noise sensitive land uses are directly adjacent to the project. An industrial use lies to the north, the Delta-Mendota Canal to the west, and agricultural uses to the south and east. The nearest *sensitive* noise receptor is a residence approximately 1,480 feet (O.25 miles) west of the site (Site LT-2).[54] Residences also lie to the east of the project with the closest property line approximately

[53] Staff's Noise Tables A1 and A2, replicated at the end of this section, explain the definitions of these and other noise measurement terms.

[54] See Table 3, infra, which refers to this noise receptor as a monitoring location.

2,340 feet from the project site (near Site LT-1). A single farmhouse (Site ST-5) lies about 2,060 feet (0.39 miles) southwest of the project site. (Ex. 17, p. 3.5-3.)

Existing ambient noise at the project site is due to industrial facilities, small aircraft over flights, and distant traffic noise. (Ex. 1, § 8.5.1.3.)

2. Methodology

Applicant conducted an ambient noise survey on June 14 and 15 at locations LT-1 and LT-2 for 25 hours at each site. LT-1 and LT-2 represent the two closest residential areas. Site LT-1 was at the closest residence east of the site and is described as the "residence on Lammers Road south of the railroad tracks." Site LT-2 is west of the site and is referred to as the "Lopez residence." Thirteen (13) additional sites were monitored for a short period of time. The weather was warm to hot with low wind speeds and low relative humidity. (Ex. 17, p. 3.5-4.)

Summaries of the 8-hour noise levels recorded for the two long-term monitoring locations (LT-1 and LT-2) are listed below in **Noise: Table 3**. Additionally, the short-term measurements for Site ST-5 (the closest site to the combustion turbines) are included in the table. The long-term measurements show that the background noise levels were quietest during the daytime hours. The period from 8 a.m. to 4 p.m. was representative of the quietest time of day with an average eight hour background noise level at LT-2 of approximately 35 dBA $L_{90}$. The measurements at ST-5 are short term (i.e., less than 1 hour); however, it was assumed that they were representative of an 8-hour period. ST-5 had an average dBA $L_{90}$ of 36. (Ex. 17, pp. 3.5-4, 3.5-5.)

**Noise: Table 3 - Long-Term Noise Measurement Summary (8-Hour Average From 8 a.m. to 4 p.m.)**

| Monitoring Location | Ldn, dBA | L90 8-Hour, dBA | L50 8-Hour, dBA | Leq 8-Hour, dBA |
|---|---|---|---|---|
| LT-1 | 54 | 37 | 40 | 50 |
| LT-2 | 52 | 35 | 38 | 44 |
| ST-5 | N.A. | 36* | 38* | 39* |

*It is assumed that these short-term measurements are representative of an 8-hour period
Source: Derived from GWF 2001a, AFC Appendix E
Source: Ex. 17, p. 3.5-5.

3. Potential Impacts and Mitigation

a. Construction

Construction of the power plant will cause short-term noise impacts. The San Joaquin County Code exempts noise from construction activities between the hours of 6:00 a.m. and 9:00 p.m. on any day. Applicant will limit construction activities to the hours between 6 a.m. and 6 p.m. Monday through Saturday during the 8-month construction period. (Ex. 1, § 8.5.2.2.) The predicted worse case hourly construction noise level at the nearest sensitive receptor is 47dBA $L_{eq.}$ This noise level would be within the range of existing ambient noise levels at the receptors. (Ex. 17 p. 3.5-7.) Also, very noisy construction activities will be of short duration and will not all occur at the same time. (Ex. 1, § 8.5.2.2.) Therefore, construction related noise levels are not expected to result in any significant noise impacts. (*Ibid;* Ex. 17, p. 3.5-7.)

Implementation of the measures described in Conditions **NOISE-1, NOISE-2, and NOISE-3** will further reduce any potential for noise impacts to the local community as a result of construction activities. Condition **NOISE-1** requires notification of neighbors of the commencement of construction and the establishment of a telephone number for receipt of noise complaints. Condition **NOISE-2** limits noisy construction to daytime hours and limits noise from nighttime construction in accordance with the San Joaquin County noise

element. Condition **NOISE-3** requires the property owner to establish a noise complaint process before construction begins.

Construction of the linear facilities, including the transmission lines and water supply pipeline, will occur only during weekday daytime hours and will last for a limited (8-months) time period. Construction activities will typically move along the linear route on a daily basis so that no single receptor will be subject to impacts for more than a few days. Existing ambient noise levels at locations near residential receptors will increase only marginally. As a result, noise levels associated with construction of the linear facilities will be less than significant. (Ex. 17, p. 3.5-7; Ex. 1, §§ 8.5.2.4, 8..5.2.6.)

Project workers are susceptible to injury from excessive noise during construction-related activities. **NOISE-4** requires the project owner to implement a noise control program for construction workers in accordance with Cal/OSHA standards. (Ex. 17, p. 3.5-7.)

b. Operation

A power plant operates as essentially a steady, continuous noise source. It contributes to, and becomes part of, the background noise level, or the sound heard when most intermittent noises cease. Although the TPP is intended for peaking duty, Applicant proposes to operate the project at a capacity factor exceeding 50 percent. (Ex 2, §§ 1.6, 2.2.2, 2.2.15.) This means the plant will operate for extended hours, perhaps around the clock, for significant periods of the year. The plant will thus contribute to, and often define, the background noise level. (Ex. 17, p. 3.5-8.)

The California Environmental Quality Act (CEQA) requires that noise impacts from a project be mitigated to a level of insignificance, or if this is impractical, to the extent feasible. Feasibility includes taking into account economic, environmental, legal, social, and technological factors. (Cal. Code of Regs., tit.

14, § 15364.) However, CEQA does not specify a noise measurement standard or descriptor that must be used to measure noise. (3/13/02, p. 267.) In determining if a significant impact will likely occur, Energy Commission staff follows the noise industry custom of assuming that a project that increases the existing noise level at a sensitive receptor by 5 dBA or more has the potential to produce a significant adverse impact, and that further study is warranted.[55]

There are several ways of measuring noise impacts. Staff chose $L_{90}$ as the significant noise measurement because the constant steady noise from a power plant becomes part of the background noise, and the $L_{90}$ level is commonly used to measure background noise. The $L_{90}$ level is the noise level exceeded 90 percent of the time. In noisy urban/industrial environments, Staff utilizes the lowest *hourly* $L_{90}$ as a basis of measurement. However, given the rural environment and extremely quiet background noise levels encountered at the project site, Staff believed it was appropriate to average the $L_{90}$ levels for the project over a representative period such as eight hours. Nighttime hours are typically used for averaging since they usually present the quietest time of day. However, at the TPP site the daytime noise regime is quieter so daytime hours were used for averaging.[56] (3/13/02 RT, pp. 213-218, 221-223; Ex 17, p. 3.5-9.)

The average daytime background noise level at LT-2 during the quietest eight hours, from 8:00 a.m. to 4:00 p.m., is approximately 35 dBA $L_{90}$, which represents an extremely quiet noise environment. The noise control measures selected by Applicant for the project will yield a noise level of 42 dBA $L_{eq}$ at LT-2.

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[55] (5 dBA is considered to represent an increase in noise that is noticeable, but not necessarily annoying, to a majority of receptors) (Ex. 17, p. 3.5-8.)

[56] During the original monitoring period nighttime ambient noise levels were significantly higher than the daytime levels; background levels were generally 8 dBA higher at night. Staff believed this was likely due to the measurements being taken in summer, when insects and frogs are active at night and the delta breeze through the Altamont Pass blows far into the night. Staff believed that in the winter, it was likely that the day and night noise regimes were more similar to each other, and similar to the quiet summer daytime regime reflected in the ambient noise monitoring. Based on this assumption, staff believed it both prudent and conservative to employ the lowest (daytime) values as the relevant ambient noise regime. (Ex. 4, 17, p. 3.5-8.) Subsequent noise level monitoring by Applicant at different locations, closer to residences, indicated that during wintertime noise levels were slightly higher, but not appreciably so. (2/13/02 RT, p. 148.)

(Ex. 17, pp. 3.5-7, 3.5-8.) If the 42 dBA $L_{eq}$ noise level proposed by Applicant were combined with the 8-hour average background noise level of 35 dBA $L_{90}$, the resultant daytime background noise level at LT-2 would be 43 dBA $L_{90}$.[57] This represents an increase of 8 dBA above the existing ambient background noise level, averaged over the eight quietest hours of the day, of 35 dBA $L_{90}$. Such an increase would be expected to be perceived as a significant adverse impact by most noise receptors. (Ex. 17, pp. 3.5-9; 3/13/02, p. 226.)

Staff, therefore, proposes 39 dBA $L_{eq}$, measured at LT-2, as an appropriate noise limit for the TPP. This would result in a (new) background noise level of 40 dBA $L_{90}$ and would represent an increase of 5 dBA over the existing 8-hour average ambient background level of 35 dBA $L_{90}$. Such an increase is unlikely to cause annoyance, and would represent an insignificant adverse impact under Staff's analysis pursuant to CEQA. Staff also proposes that the 39 dBA $L_{eq}$ limit apply to LT-1 and ST-5 as well since these receptors are exposed to similar ambient noise regimes, and ST-5 is even nearer to the noise-producing portions of the project. (Ex. 17, pp. 3.5-9.) **Noise Table 4**, replicated below from the Supplement to the Staff Assessment, summarizes the existing background noise levels, Applicant's proposed background noise levels, and Staff's recommended noise levels.

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[57] The lowest ambient hourly $L_{90}$ at LT-2 was 34 dBA $L_{90}$. If the 42 dBA $L_{eq}$ noise level proposed by Applicant were combined with the existing ambient background noise level of 34 dBA $L_{90}$, it would produce a resultant background level of 43 dBA $L_{90}$. This represents an increase of nine dBA. Such an increase in background noise level would be quite noticeable, and liable to draw complaints.

Applicant disagrees with the 39 dBA $L_{eq}$ noise limit proposed by Staff. Applicant contends Staff erred in applying an $L_{90}$ standard as a measure of ambient noise, arbitrarily applied the 5 dBA criterion to a quiet noise environment, and imposed an artificially low noise requirement by requiring a 39 dBA $L_{eq}$ noise level instead of the 42 dBA $L_{eq}$ noise level proposed by Applicant. (3/13/02 RT, pp. 150, 153-160.)

**Noise: Table 4 — Contribution of Plant Noise to Background Noise Levels at LT-2**

| Noise Descriptor | Summer Daytime* | Summer Nighttime |
|---|---|---|
| Lowest $L_{90}$ | 34 | 42 |
| Average $L_{90}$ (8-hour average) | 35 | 43 |
| **Applicant's Proposal** | | |
| Plant Contribution ($L_{eq}$) | 42 | 42 |
| Resultant $L_{90}$ (plant plus background) | 43 | 46 |
| Increase in $L_{90}$ | +8 | +3 |
| **Staff's Proposal** | | |
| Plant Contribution ($L_{eq}$) | 39 | 39 |
| Resultant $L_{90}$ (plant plus background) | 40 | 44 |
| Increase in $L_{90}$ | +5 | +1 |

*Taken to represent winter conditions as well. Source: (Ex 17, p. 3.5-10.)

Applicant argues that the use of an $L_{90}$ noise descriptor was inappropriate because it represents a noise level that is exceeded 90 percent of the time (and thus ignores 90 percent of the ambient noise).[58] Applicant also argues that Staff improperly modified the $L_{90}$ noise descriptor by selecting the quietest eight hours of the monitoring period as the basis for its calculations. Staff thus considered only the quietest 10 percent of the quietest hours that occurred during the measurement period, which, according to Applicant, created an artificially low noise level floor. Applicant maintains that by excluding over 90 percent of the noise environment, Staff painted a false picture of ambient conditions and

[58] Applicant recommends use of the $L_{DN}$ (average day/night sound level) noise descriptor because it permits a comparison of other kinds of noise environments in order to determine what is a noisy environment. (3/13/02 RT, pp. 152-154.) If the $L_{DN,}$ an $L_{eq}$ or even an $L_{50}$ noise descriptor were used, the noise increase would be less than 5 decibels. (3/13/02 RT, p. 162.)

created an unduly stringent starting point for measuring change in ambient noise. Applicant also asserts that application of the $L_{90}$ noise descriptor to daytime hours, rather than nighttime hours when it would be more appropriate to have a quieter sound level, and using the average of only eight hours instead of an average of all 25 hours of monitoring, was erroneous. (3/13/02 RT, pp. 154-155; Applicant's post-hearing brief, pp. 13-14.) In addition, Applicant asserts that use of the $L_{90}$ noise descriptor is inconsistent with a state land use and planning standard that recommends use of a $L_{dn}$ noise descriptor when preparing noise elements of a general plan, and the American National Standards, which call for use of an average $L_{dn}$ sound level in determining compatible land use and noise levels. (3/13/02 RT, pp. 153-154.)

Applicant next argues that it was arbitrary, inappropriate and overly stringent to permit an increase of only 5 dBA in a very low noise environment such as the one that exists at the project site. Applicant notes 42 dBA and 39 dBA are very low noise levels, especially outdoors, and that the difference between 42 dBA and 39 dBA is almost imperceptible. Applicant also asserts that a 42 dBA noise level would not affect normal human activities such as speech and sleep. (3/13/02 RT., pp. 155-157; Applicant's post-hearing brief, pp. 14-15.)

Lastly, Applicant argues that 39 dBA is an inappropriate standard because no benefits to the community accrue by imposing that standard instead of the 42 dBA noise limit proposed by Applicant since a 3 three decibels noise increase would be hardly perceptible. Applicant also notes that a 42 dBA noise limit would comply with applicable County noise LORS, and that compliance with the 39 dBA $L_{eq}$ requirement will cost approximately $600,000, which it considers "excessively expensive" to achieve a barely perceptible public benefit. (3/13/02 RT, p. 167.)

We do not find Applicant's arguments persuasive. Noise from a power plant is usually constant and thus becomes part of the background noise. The $L_{90}$ noise descriptor is specifically designed to measure background noise; therefore we find its use appropriate. Nor do we find it inappropriate that Staff considered only

the quietest 10 percent of the quietest eight hours, which were daytime hours, of the 25-hour monitoring period. CEQA requires an assessment of the noise impacts from a project and we consider it reasonable to begin that assessment at the point of initial impact. In this case, that point was during daytime hours, which had the lowest noise levels. Staff's witnesses admitted this was a conservative approach, but explained that it was appropriate because once the plant begins operation it will change the noise level of the environment, and it is very likely there will be future residential development near the site. (3/13/02, pp. 222, 225, 236.)

Due to the rural setting and extremely quite background noise of the project site, Staff chose, in an effort to be fair, to use the average $L_{90}$ level over an eight hour period, instead of the single quietest hour level it typically uses in an urban environment. (3/13/02 RT, pp. 221-222.) Applicant has not persuaded us that this was inappropriate.

Applicant's argument that Staff's application of a 5 dB criterion to a quiet noise environment was arbitrary and inappropriate is similarly unpersuasive. Staff testified that if a noise increase is less than 5 dBA there is a presumption of no significant impact, but if the increase is over 5 dBA further individual analysis is undertaken. Staff concluded, based on an individual analysis, that an increase of 8 decibels would likely have a significant impact because the increase in background noise would be constant and perceptible and likely to generate complaints. (3/13/02 RT, p. 256.) Staff also noted the fact that there was a strong likelihood of residential development near the site. (3/13/02 RT, p. 236.) Staff proposed a 5 dBA increase because they felt that if the noise increase was only 5 dBA the impact would clearly be less than significant. (3/13/02 RT, p. 259.)

Applicant's expert conceded that with an increase from 35 dBA to 39 dBA "you would probably hear the difference", but that "you would definitely hear that difference if the increase were from 35 to 42 dBA." (3/13/02 RT, p. 169.) Thus,

operation of the TPP will clearly have an impact. CEQA requires that noise impacts from a project be mitigated to a level of insignificance, or if this is impractical, to the extent feasible. Applicant does not suggest that the mitigation proposed by Staff is infeasible, just excessively expensive. However, Applicant's $600,000 cost estimate is based on a verbal opinion offered by Applicant's witness at hearing, and that opinion was not supported by any independent investigation by Applicant or Staff. The Commission therefore considers this cost estimate unpersuasive. Applicant has failed to establish the mitigation recommended by Staff is technically infeasible or overly expensive. The Commission is persuaded by the weight of the evidence that the 39 dBA noise limit proposed by Staff is appropriate and achievable.

The evidence establishes that there are no noise impacts associated with operation of the linear facilities: the water pipeline will be buried below ground, and the transmission line and switchyard are not located near noise-sensitive land uses. (Ex. 17, pp.3.5-10, 3.5-11; Ex. 1, §§ 8.5.2.3, 8.5.2.5.)

Staff reviewed the potential for cumulative impacts related to new or existing projects. Several projects are proposed around the project site. Most of the projects are general development projects and will not have significant stationary source noise. However, two of the projects in the area are the East Altamont Energy Center and the Tesla Power Project. The East Altamont project is 8 miles from the site, and the Tesla project is 4 miles from the site. Due to the large distance of these projects from the TPP site, the noise levels from the other facilities will not be significant and will not add significantly to the noise generated by the TPP. As a result, there are no significant cumulative effects associated with construction of the TPP. (Ex. 17, p. 3.5-11.)

**FINDINGS AND CONCLUSIONS**

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

1. Construction and operation of the Tracy Peaker Project (TPP) will create noise levels 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 construction to daytime hours, and providing notice to nearby residences, as appropriate.

3. Construction of linear facilities will be temporary and will not result in significant adverse noise impacts.

4. The nearest sensitive residential receptors potentially affected by operational noise are located about 1,480 feet from the project site.

5. Operational noise from the power plant will increase the existing ambient noise levels experienced at the nearest sensitive receptors by 8 decibels. With mitigation, this increase will be reduced to 5 dBA and will not cause a significant impact.

6. The 39 dBA $L_{eq}$ noise limit during operation proposed by Staff is appropriate.

7. The project owner will implement measures to protect workers from injury due to excessive noise levels.

8. Implementation of the measures contained in the Conditions of Certification, below, ensures that the TPP will comply with the applicable laws, ordinances, regulations, and standards specified in the pertinent portion of Appendix A of this Decision, and that noise impacts will be mitigated to the extent feasible.

The Commission therefore concludes that the mitigation measures described in the evidentiary record and the Conditions of Certification, below, ensure that project-related noise levels will not cause significant adverse impacts to sensitive noise receptors.

## 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:** The project owner shall transmit to the CPM in the first Monthly Construction Report following the start of ground disturbance, 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** Construction noise levels as measured at any affected residence shall be limited to 60 dBA Leq during daytime hours (6 a.m. to 9 p.m.) and 45 dBA Leq during nighttime hours (9 p.m. to 6 a.m.).

**Verification:** The project owner shall transmit to the Compliance Project Manager (CPM) in the first Monthly Construction Report a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

**NOISE-3:** 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 (below), 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, or similar instrument approved by the CPM, with the local jurisdiction, and with the CPM, documenting the resolution of the complaint. If mitigation is required to resolve a complaint, and the complaint is not resolved within a 3-day period, the project

owner shall submit an updated Noise Complaint Resolution Form when the mitigation is finally implemented.

**NOISE-4** Prior to the start of ground disturbance, the project owner shall submit to the CPM for review a construction noise control program consistent with Cal-OSHA regulations (Title 8, Group 15, Article 105, Section 5096). 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, or a lesser period of time mutually agreed to by the CPM and the project owner, the project owner shall submit to the CPM the above referenced program. The project owner shall make the program available to OSHA upon request.

**NOISE-5** The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause plant noise levels at the nearest residential receivers (i.e., Sites LT-2 and ST-5) to exceed 39 dBA ($L_{eq}$) under normal operating conditions, including startups and shutdowns. Additionally, noise due to plant operations shall comply with the noise standards of the San Joaquin County Code (Section 9-1025.9).

No new pure tone components may be produced by operation of the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints.

> Protocol: Within 30 days of the project first achieving an output of 80 percent or greater of rated capacity, the project owner shall conduct a 25-hour community noise survey at Sites LT-2 and ST-5 used for the ambient noise survey. The survey shall also include the one-third octave band pressure levels to ensure that no new pure-tone noise components have been introduced. If the results from the survey indicate that the project noise level at the residential location exceeds the standards and requirements cited above, additional mitigation measures shall be implemented to the project to reduce noise to a level of compliance with these limits.

**Verification**: Within 15 days after completing the post-construction survey, the project owner shall submit a summary report of the survey to the local jurisdiction, 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. Within 15 days of implementation of the mitigation 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-6** Within 30 days of the project first achieving an 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 COMPLAINT RESOLUTION FORM

Tracy Peaker Project
(01-AFC-16)

**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: _____

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

## NOISE: Table A1
## 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, dB | 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 5 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 Average Sound Level, DNL or $L_{dn}$ | 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. |
| Source: California Department of Health Services 1976. | |

## NOISE: Table A2
## Typical Environmental and Industry Sound Levels

| Source and Given Distance from that Source | A-Weighted Sound Level in Decibels (dBA) | Environmental Noise | Subjectivity/ Impression |
|---|---|---|---|
| Civil Defense Siren (100') | 140-130 | | Pain Threshold |
| Jet Takeoff (200') | 120 | | |
| Very Loud Music | 110 | Rock Music Concert | Very Loud |
| Pile Driver (50') | 100 | | Very Loud |
| Ambulance Siren (100') | 90 | Boiler Room | Very Loud |
| Freight Cars (50') | 85 | | |
| Pneumatic Drill (50') | 80 | Printing Press<br>Kitchen with Garbage Disposal Running | Loud |
| Freeway (100') | 70 | | Moderately Loud |
| Vacuum Cleaner (100') | 60 | Data Processing Center<br>Department Store/Office | |
| Light Traffic (100') | 50 | Private Business Office | Quiet |
| Large Transformer (200') | 40 | | |
| Soft Whisper (5') | 30 | Quiet Bedroom | |
| | 20 | Recording Studio | |
| | 10 | | Threshold of Hearing |
| Source: Peterson and Gross 1974 | | | |

## E. SOCIOECONOMICS

The socioeconomic analysis evaluates the effects of project-related population changes on local schools, medical and protection services, public utilities and other public resources, as well as the fiscal and physical capacities of local government to meet these needs. The construction phase of project development 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. The issue of environmental justice is also evaluated under this topic.

### SUMMARY AND DISCUSSION OF THE EVIDENCE

The project site is located in an unincorporated portion of San Joaquin County, immediately southwest of the City of Tracy and approximately 20 miles southwest of the City of Stockton. The site is bordered by Alameda and Contra Costa Counties to the west, Sacramento County to the north, and Amador, Calveras and Stanislaus Counties to the east and south. (Ex. 1, § 8.8.2.) It is likely that the City of Tracy and San Joaquin County will receive the majority of the socioeconomic impacts attributable to the project. (*Ibid*.)

#### 1. Potential Impacts

Applicant estimates that project construction will last approximately 8 months. During this time, an average workforce of approximately 95 workers and a peak workforce of approximately 178 workers from varying trades will work daytime shifts at the project site Monday through Saturday. It is anticipated that the peak workforce will be needed from the third month through the seventh month of construction. (Ex. 2, § 2.2.14.) Specific trades required for construction include carpenters, electricians, ironworkers, boilermakers, millwrights, insulation

workers, painters, plasterers, laborers and pipefitters. An adequate construction labor force exists within daily commuting distance (from within San Joaquin County and surrounding counties) to meet the increased demand attributable to the project. (Ex. 4, p. 5.7-10; Ex. 1, § 8.8.3.2, Table 8.8-12.) Therefore no temporary or permanent relocation of workers is necessary for project construction.

Because hiring of construction workers is expected to occur from within San Joaquin County and surrounding counties, the potential demand for housing during construction is expected to be minimal or none. For the same reason, school children of construction workers are not expected to relocate and school enrollments would not be affected as a result of project construction. (Ex. 1, § 8.8.3.3; 3/6/02 RT, p. 219.)

An estimated 70 indirect jobs will be produced during construction of the project. These jobs will result in an estimated $3.3 million in local construction expenditures and $6.51 million from spending by local construction workers. (Ex. 4, p. 5.7-10; Ex. 1, § 8.8.3.2.) Secondary employment impacts within San Joaquin County will be a small portion of the 70 indirect jobs since construction employees will commute from outside the county and a portion of the labor income earned from construction will be spent outside the county. Such impacts will be temporary since they are attributable to temporary construction activities. (*Ibid*.)

Applicant expects to employ two permanent employees - one skilled full-time production operator and one on-call maintenance worker - during project operation. (Ex. 1, § 8.8.3.2.) The employees will be transferred from other facilities owned by Applicant and will commute to the project site on a daily basis as needed.[59] Therefore operation and maintenance of the project will not result

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[59] Because the project is a peaking plant it will operate only when dispatched, and not continuously. Upon plant dispatch, an operator will be sent from another plant owned by

in any in significant adverse impacts on housing, schools, public utilities, or emergency services in the local communities. (Ex. 1, §§ 8.8.3.3 and 8.8.3.4; Ex. 4, pp. 5.7-11 through 5.7-12.)

Fiscal impacts from the project will be substantial. The project will pay an estimated $8 million in sales taxes for construction materials and equipment purchased locally. Approximately $250,000 of the $8 million will result from taxed purchases within San Joaquin County. A small amount of sales tax revenue will also be generated from construction workers and project operators. Labor costs, including base wages, benefits, taxes, and overtime will constitute approximately 12 percent of the total $107 million construction cost. In addition, the project will provide approximately $1 million, plus $78.54, annually in property taxes to San Joaquin County[60] and project owners will pay a school impact fee of $1,650. (Ex. 1, §§ 8.8.3.5; Ex. 4, pp. 5.7-12 through 5.7-14.)

2. Environmental Justice Screening Analysis

Applicant conducted a screening analysis to determine whether environmental justice concerns are present in this case.[61] (Ex. 1, § 8.8.4; Ex. 4, p. 5.7-14

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Applicant to operate the peaking facility. Periodic maintenance activities at the peaking facility would also be provided by dispatch as needed. (2/6/02 RT, pp. 235-236.)

[60] There are two pending actions in the Legislature that would alter the method by which power plants are assessed and the way property tax revenue they generate is allocated. The first, AB 81 (Migden) would shift responsibility for property tax assessment from the County Assessor to the State Board of Equalization by making it a "state assessed property." AB 81 could substantially increase total property tax revenue derived from a power plant over its lifespan. However, local governments, schools and other special districts would receive property tax revenue from the plant at the same percentage of the total they currently receive.

The second action is the State Board of Equalization November 28, 2001, action to amend Rule 905, "Assessment of Electric Generation Facilities. The amendment would make electric generation facilities with generating capacity in excess of 50 megawatts and owned or used by an electrical corporation state assessed property. Rule 905 does not address revenue allocation. However, for state assessed property, collected property taxes are distributed to all taxing jurisdictions in the county according to a statutory formula. (Ex. 4, pp. 5.7-12-5.5-14.)

[61] Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" requires the U.S. Environmental Protection Agency

through 5.7-15.) 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 and/or low-income population of the affected area constitute 50 percent or more of the general population. (*Ibid.*) Relevant data within a six-mile radius of the site indicate that minority and/or low-income populations constitute less than 50 percent of the general population.[62] (*Ibid;* 2/6/02 RT, pp. 219-221, 239-243.) As a result, Staff concluded the project will not result in any significant adverse socioeconomic impacts on the surrounding minority and low income populations. Thus, the project raises no environmental justice issues. (*Ibid*.)

3. Property Value

In general, the project area is experiencing significant growth as an increasing number of people move out of the Bay area in search of affordable housing. During the past six years home prices have increased at an average annual rate of approximately 6 percent in San Joaquin County, and 10 percent in Tracy.

Several intervenors and numerous members of the public expressed concern about the project's impact on property values. There is considerable local concern that property values will decline, or not rise as rapidly as they would in the absence of the project.

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(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 have typically included this topic in our power plant siting decisions to ensure that any potential adverse impacts on identified populations have been addressed.

Applicant conducted a study entitled "Tracy Peaker Project-Property Value Assessment. Based on a review of property values in the vicinity of the project site, Applicant concluded the project has not adversely affect property values in the area and that it is not likely to do so in the future. The study noted, *inter alia*, that home prices within a 1.5 radius of the project site have increased steadily since residential development in that radius first began in 1999. (Ex. 27)

Staff reviewed Applicant's analysis and similarly concluded the project would not significantly affect property values in the area surrounding the site. Staff noted that home values in the area of the proposed site were strong despite the proximity of the homes to existing industrial facilities such as the Owens Brockway Glass Container Manufacturing facility and the Tracy Biomass Power Plant. Staff also noted the project would be small in scale relative to existing industrial uses in the vicinity and, if built, would not add measurably to the industrial character of the area. (Ex. 17, pp. 3.7-1 through 5.7-3.) The objective evidence establishes that property values are not likely to decrease because of the project.

4. Cumulative Impacts

Both Staff and Applicant considered the potential cumulative impacts of the project in light of existing development and foreseeable developments in the vicinity of the project site. This included consideration of residential development within the City of Tracy and commercial/industrial development in the surrounding vicinity. Staff also considered the potential impact of two other power plants (Tesla and East Altamont) that are currently being considered for development. (Ex. 4, pp. 5.7-15 through 5.7-16; Ex. 1, § 8.8.5.) Construction of one or both of these power plants could overlap briefly with construction of the

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[62] Staff used a six-mile radius in reviewing Applicant's analysis because it is the same radius used for Staff's cumulative air quality and public health analyses and captures the areas most likely to be impacted by the project. (Ex. 4, p. 5.7-14.)

project, but it is unlikely that recruitment of non-local construction workers will occur due to the availability of local labor for all projects. Thus, there is no evidence of potential adverse cumulative impacts to the local infrastructure or public services. (*Ibid*.) In summary, no significant cumulative socioeconomic impacts will result from construction and operation of the project.

## FINDINGS AND CONCLUSIONS

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

1. The Tracy Peaker Project will draw upon the local workforce from San Joaquin County and surrounding counties for construction and operation of the project.

2. The project will not cause an influx of a significant number of construction or operation workers into the local area.

3. The project will not result in significant adverse effects to local employment, housing, schools, public utilities, or emergency services.

4. The project will provide an estimated $1 million in annual property tax revenues to San Joaquin County, as well as increased revenue from sales taxes, employment, and sales of services, manufactured goods and equipment. .

5. The Tracy Peaker Project will not have a significant adverse impact on the minority and/or low-income population within the local area.

6. Property values in the vicinity of the project are not likely to decline due to the Tracy Peaker Project.

7. Construction and operation of the project will not result in any direct, indirect, or cumulative adverse socioeconomic impacts.

The Commission therefore concludes that implementation of the Conditions of Certification, below, 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 portions of APPENDIX A.

## CONDITIONS OF CERTIFICATION

**SOCIO-1** The project owner and its contractors and subcontractors shall recruit employees and procure materials and supplies within San Joaquin County unless:

- To do so will violate federal and/or state statutes;
- The materials and/or supplies are not available;
- Qualified employees for specific jobs or positions are not available; or
- There is a reasonable basis to hire someone for a specific position from outside the local area.

At least 60 days prior to the start of construction, the project owner shall submit to the Energy Commission CPM copies of contractor, subcontractor, and vendor solicitations and guidelines stating hiring and procurement requirements and procedures. In addition, the project owner shall notify the CPM in each Monthly Compliance Report of the reasons for any planned procurement of materials or hiring outside the local regional area that will occur during the next two months.

**SOCIO- 2** The project owner shall pay the one-time statutory school facility development fee as required prior to obtaining the in-lieu building permit from San Joaquin County.

**Verification:** The project owner shall provide proof of payment of the statutory development fee in the next Monthly Compliance Report following the payment.

# VII. PROJECT ALTERNATIVES

This analysis describes a range of feasible site and facility alternatives that would attain the basic objectives of the proposed project but would avoid or substantially lessen potentially significant environmental impacts. The analysis also addresses the "no project" alternative. (Cal. Code of Regs., tit. 14, § 15126(d) and tit. 20, § 1765.) The range of alternatives that we are required to consider is measured by the "rule of reason" and need not include those alternatives whose effects cannot reasonably be ascertained and whose implementation is remote and speculative. [*Id.* at tit. 14, § 15126(d)(5).]

## SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence of record describes the methodology used to analyze project alternatives and includes a discussion of alternative technologies and alternative project sites as well as the "no project alternative." (Ex. 4, pp. 7-3 through 7-13.)

### 1. Methodology

Staff used the following methodology in preparing the alternatives analysis:

- Identify basic project objectives.
- Identify any potentially significant environmental impacts of the project.
- Identify and evaluate technology alternatives to the project that could mitigate project impacts.
- Identify and evaluate alternative sites for the project to determine whether these sites could reduce or eliminate project impacts.
- Evaluate the "No Project" Alternative to determine whether this alternative would be superior to the project as proposed.

Alternatives to the proposed project included two general types: (1) other sites where the proposed project (a natural gas burning turbine) could be utilized, and (2) different power generation technologies (not requiring natural gas as fuel).

Staff initially found that the project posed potential significant adverse impacts in the technical areas of biological resources, cultural resources, land use, noise, soil and water and visual resources. (Ex. 4, pp. 7-3 through 7-4.) However, Applicant agreed to implement measures that would mitigate all potential impacts to levels of insignificance. (*Ibid*.) Thus, there are no unmitigated impacts.

2. Project Objectives

Analysis of project alternatives begins with an identification of Applicant's project objectives, which include the following:

- To provide peak load electrical energy in the newly deregulated power market as soon as possible.
- To be located near key infrastructure, such as transmission line interconnections, supplies of process water (preferably wastewater), and natural gas.
- To be located in the San Joaquin Valley Air Pollution Control District and to connect to a major substation North of Path 15 (north of PG&E's Los Banos Substation).
- To be online before the end of 2002. (Ex. 4, p. 7-3; Ex. 2, § 5.0.)

3. Generation Technology Alternatives

Staff considered several alternative generation technologies that do not burn fossil fuel. These included solar, wind, biomass, geothermal and hydropower. Staff determined that solar and wind technologies are not feasible alternatives because they would require large land areas to generate 169 megawatts (MW) of electricity, can have significant visual impacts and cannot, due to the natural intermittent availability of sun and wind resources, provide the full-time availability necessary to meet the project's goal of providing immediate power to meet peaks in demand. Solar energy also requires near access to transmission lines; however, transmission availability is limited in the remote desert areas where such technologies would have to be located. (Ex. 4, pp. 7-12, 7-13.) Biomass

technology was also rejected due to the higher level of air emissions resulting from burning wood chips or agricultural waste compared to use of natural gas. Moreover, biomass plants are typically sized to produce less than 20 MW and would not meet project objectives. (Ex. 4, p. 7-13.) Geothermal technology and hydropower were rejected as alternative because there are no viable geothermal or hydroelectric resources in the Alameda County or San Joaquin Valley region; therefore, these technologies do not meet project objectives. (*Ibid*.)

4. Alternative Sites

In evaluating alternative sites, consideration was given to the underlying objectives of the project, as well as several of Applicant's siting criteria:

- Proximity to centers of electrical demand, cooling water (preferably treated wastewater), electrical transmission and natural gas facilities;
- A site acceptable for industrial use or heavy industry; and
- A site located more than 1,000 feet from human receptors. (Ex. 4, p. 7-4.)

Staff examined three alternatives sites, the Schulte Road Site and the I-580 Site (both proposed by Applicant), and the Midway Road Site (proposed as an alternative in section 3.10 of the AFC for the Tesla Power Project). (See **Alternatives Figure 1** replicated below)

**ALTERNATIVES - Figure 1**
GWF Tracy Peaker Project - Alternative Site Locations

**CALIFORNIA ENERGY COMMISSION, SYSTEMS ASSESSMENT & FACILITIES SITING DIVISION,** FEBRUARY 2002
SOURCE: California Energy Commission Statewide Transmission & Power Plant Maps, 2002

All three alternatives sites offer some advantages and disadvantages in comparison to the proposed project. However, Staff considered the Midway Road and I-580 Sites inferior to the proposed site. The I-580 Site would be highly visible from the I-580, which is a designated scenic highway. The Midway Road Site is undeveloped and surveys would need to be conducted in order to determine whether sensitive species were present on the site. (Ex. 4, p. 7-14.)

Staff considered the Schulte Road Site comparable to the proposed site in its potential for environmental impact and its location on an existing industrial parcel. Construction of a power plant on this site would be consistent with neighboring industrial uses and would not introduce new, substantially different elements into the local viewshed. However, construction on the site would require a total of three miles of additional linear facilities. (The proposed TPP site would have shorter connections to infrastructure than any of the proposed alternatives.)

Also, due to permits required by both the United States Environmental Protection Agency and San Joaquin Valley Air Pollution Control District, relocating the proposed TPP to the Schulte Road Site would require additional time for air quality permitting. Staff concluded that overall the proposed project site has no identified significant impacts. Therefore, it did not recommend an alternative site over the proposed project site.

5. No Project Alternative

Applicant asserts that the 'no project' alternative would not provide increased peaking generation to serve the State's growing demand for electricity. (Ex. 2, § 5.1.) Staff also notes that the "no project" alternative would eliminate expected economic benefits to San Joaquin County from the project, including increased property taxes, employment, sales taxes, and sales of services, manufactured goods, and equipment. (Ex. 5, p. 7-10.)

Staff's analysis indicates that if the project were not built all impacts to the environment that would result from the construction and operation of the plant at the proposed site would be eliminated. However, no significant impacts have been identified for this project, and construction and operation of the proposed project would contribute to the State's policy goals of increasing in-state generation within the next two years; with the "no project" alternative, that benefit would not occur. A benefit of a peaker plant such as the TPP is that it can respond within 10 minutes to peaks in the demand for energy. (Ex. 4, p. 7-10.)

**FINDINGS AND CONCLUSIONS**

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

1. The project site is located on an undeveloped parcel in an unincorporated portion of San Joaquin County that is zoned for agricultural uses, but which permits power generating facilities to be conditionally permitted.

2. The evidentiary record contains a review of alternative technologies, fuels, sites, and the “no project” alternative.

3. No feasible technology alternatives such as geothermal, hydroelectric, solar, or wind resources are located near the project or are capable of meeting project objectives.

4. The use of alternative generation technologies would not prove efficient, cost effective or mitigate any significant environmental impacts to greater levels of insignificance than the proposed project description.

5. The evidentiary record does not establish that significant environmental impacts would be avoided under the ‘no project’ alternative.

6. The evidentiary record contains an adequate analysis of alternative site locations.

7. If all Conditions of Certification contained in this Decision are implemented, construction and operation of the Tracy Peaker Project 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 Warren-Alquist Act and the California Environmental Quality Act and their implementing regulations. No Conditions of Certification are required for this topic.

# *Appendix A*

***LORS: Laws, Ordinances, Regulations, and Standards***

# 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 NSR analysis has been delegated by the U.S. Environmental Protection Agency (U.S. EPA) to the San Joaquin Valley Air Pollution Control District (SJVAPCD, or District). The U.S. EPA determines the conformance with the PSD regulations. The PSD requirements apply only to those projects (known as major sources) that exceed 250 tons per year for any pollutant, or any new facility or stationary source category that is listed in 40 CFR Part 52.21(b)(1)(i)(a), and that emits 100 tons or more, per year of any criteria pollutant. A major modification at an existing major source that results in an emission increase of 100 tons per year for carbon monoxide (CO), 40 tons per year for oxides of nitrogen ($NO_x$), sulfur dioxide ($SO_2$) or volatile organic compounds (VOC), or 15 tons per year for particulate matter less than 10 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.

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 TPP will require a Title V permit.

The TPP is also subject to the federal New Source Performance Standards (NSPS) for the combustion turbines (40 CFR 60 Subpart GG). This regulation has 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 reviews and approves the SJVAPCD (District) regulations and has delegated to the SJVAPCD the implementation of the federal NSR, Title V, and NSPS programs. The District implements these programs through its own rules and regulations, which are, at a minimum, as stringent as the federal regulations. The NSR program is administered under District Rule 2201 and the NSPS program is administered by the rules in District Regulation IV. The Title V program is administered by the District under Rule 2520. In addition, the U.S. EPA has also 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 $SO_x$. Rule 2540 implements the federal Title IV program. Therefore, compliance with the District's rules and regulations will result in compliance with federal requirements.

## 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

The proposed project is subject to the following San Joaquin Valley Air Pollution Control District (District) Rules and Regulations:

### Rule 1080 – Stack Monitoring

This rule grants the Air Pollution Control Officer the authority to request the installation and use of continuous emissions monitors (CEM's), and specifies performance standards for the equipment and administrative requirements for record keeping, reporting, and notification.

### Rule 1081 – Source Sampling

This rule requires adequate and safe facilities for use in sampling to determine compliance with emission limits, and specifies methods and procedures for source testing and sample collection.

### Rule 2010 – Permits Required

This rule requires any person building, altering, replacing or operating any source which emits, may emit air contaminants, or may reduce emissions to first obtain authorization from the District in the form of an Authority to Construct or a Permit to Operate. By the submission of an ATC application, GWF Energy LLC is complying with the requirements of the rule.

### Rule 2201 – New and Modified Stationary Source Review Rule

The main function of the District's New Source Review Rule is to allow for the issuance of Authorities to Construct, Permits to Operate, the application of Best Available Control Technology (BACT) to new or modified permit source and to require the new permit source to secure emission offsets.

#### Section 4.1 – Best Available Control Technology

Best Available Control Technology is defined as: a) BACT levels that are contained in any State Implementation Plan and that have been approved by EPA; b) the most stringent emission limitation or control technique that has been

achieved in practice for a class of source; or c) any other emission limitation or control technique that the District's Air Pollution Control Officer (APCO) finds is technologically feasible and is cost effective. BACT is required for $NO_x$, VOC, $PM_{10}$ and $SO_2$ emissions from any new or modified emission unit that results in an emissions increase of 2 lb/day, and CO emissions that exceed 550 lb/day. In the case of TPP, BACT will apply for $NO_x$, VOC, CO, $SO_2$, and $PM_{10}$ emissions from all point sources of the project.

### Section 4.2 – Offsets

Emissions offsets for new or modified sources are required when those sources exceed the following emission levels:

- Oxides of Nitrogen, $NO_x$ – 10 tons/year
- Volatile Organic Compounds, VOC – 10 tons/year
- Carbon Monoxide, CO – 550 lbs/day
- $PM_{10}$ – 80 lbs/day
- Sulfur Oxides, $SO_x$ – 150 lbs/day

The TPP would exceed all of the above emission levels; therefore offsets are required for all five of these pollutants. The emission offsets provided shall be adjusted according to the distance of the offset from the project proposed site. The ratios are:

- Internal or on-site source – 1 to 1
- Within 15 miles of the same source – 1.2 to 1
- 15 miles or more from the source – 1.5 to 1

Section 4.2.5.3 allows for the use of interpollutant offsets (including $PM_{10}$ precursors for $PM_{10}$) on a case-by-case basis, provided that the Applicant demonstrates that the emissions increase will not cause a violation of any ambient air quality standard. The ratio for interpollutant trading shall be based on an air quality analysis and shall be equal to or greater than the minimum offsetting requirement (the distance ratios) of this rule.

### Section 4.3 – Additional Source Requirements

Rule 4.3.2.1 requires that a new source not cause, or make worse, the violation of an ambient air quality standard as demonstrated through analysis with air dispersion models.

Rule 4.3.3 requires that the Applicant of a proposed new major source demonstrate to the satisfaction of the District that all major stationary sources owned or operated by the Applicant or any entity controlling or under common control with the Applicant in California which are subject to emission limitations are in compliance or on a schedule for compliance with all applicable emission limitations and standards.

## Rule 2520 – Federally Mandated Operating Permits

Requires that a project owner file a Title V Operating Permit application within 12 months of commencing operation. A project is subject to this requirement if any of the following apply: the project is a major stationary source (under PSD definitions), it has the potential to emit greater than 100 tons per year of a criteria pollutant, any equipment permitted is subject to New Source Performance Standards, the project is subject to Title IV Acid Rain program, or the owner is required to obtain a PSD Permit from EPA. The Title V Permit application requires that the owner submit information on the operation of the air polluting equipment, the emission controls, the quantities of emissions, the monitoring of the equipment, as well as other information requirements. TPP will be required to file for a Title V operating permit within 12 months of commencing operation.

## Rule 2540 – Acid Rain Program

A project greater than 25 MW and installed after November 15, 1990, must submit an acid rain program permit application to the District. The acid rain requirements will become part of the Title V Operating Permit (Rule 2520).

## Rule 4001 – New Source Performance Standards

Rule 4001 specifies that a project must meet the requirements of the Federal New Source Performance Standards (NSPS), according to Title 40, Code of Federal Regulations, Part 60, Chapter 1. Subpart GG, which pertains to Stationary Gas Turbines, requires that a project meet specific $NO_x$ concentration limits, based on the heat rate of combustion. In addition, the $SO_2$ concentration shall be less than 150 ppmv and the sulfur content of the fuel shall be no greater than 0.8 percent by weight.

## Rule 4101 – Visible Emissions

Prohibits visible air emissions, other than water vapor, of more than No. 1 on the Ringelmann chart (20 percent opacity) for more than 3 minutes in any 1-hour.

## Rule 4102 – Nuisance

Prohibits any emissions “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 person or public or which cause or have a natural tendency to cause injury or damage to business or property.”

## Rule 4201 – Particulate Matter Concentration

Limits particulates emissions from sources such as the gas turbines, cooling towers, and emergency fire water pumps to less than 0.1 grain per dry standard cubic foot of exhaust gas.

## Rule 4202 – Particulate Matter Emission Rate

The purpose of this rule is to limit particulate matter emissions by establishing allowable emission rates. Calculation methods are specified for determining the emission rate based on process weight. Gas and liquid fuels are excluded from

the definition of process weight. Therefore, Rule 4202 does not apply to the proposed TPP.

## Rule 4301 – Fuel Burning Equipment

Limits air contaminant emissions from fuel burning equipment. However, the proposed combustion turbines are exempt from this rule because they produce power primarily through the mechanical turning of the turbine blades.

## Rule 4701 – Stationary Internal Combustion Engines

Limits $NO_x$, CO, and VOC emissions from internal combustion engines. Since the emergency diesel generator proposed for this project will be limited to less than 200 hours per year of non-emergency operation, it is exempt from this rule.

## Rule 4703 – Stationary Gas Turbines

Establishes requirements for monitoring and record keeping for $NO_x$ and CO emissions from new or modified stationary gas turbines with a designed power of 0.3 MW or higher. According to this rule, at 15 percent $O_2$, $NO_x$ and CO concentrations must be less than 9 ppm and 200 ppm, respectively.

## Rule 4801 – $SO_2$ Concentration

Limits the emissions of sulfur compounds to no greater than 0.2 percent by volume calculated as $SO_2$ on a dry basis.

## Rule 8010 – Fugitive Dust Administrative Requirements for Control of Fine Particulate Matter (PM-10)

Specifies the types of chemical stabilizing agents and dust suppressant materials that can (and cannot) be used to minimize fugitive dust from anthropogenic (man-made) sources. This rule shall remain in effect until April 30, 2002 or until the effective date of Rule 8011 (General Requirements), whichever occurs later.

## Rule 8011 – General Requirements

Specifies the types of chemical stabilizing agents and dust suppressant materials that can (and cannot) be used to minimize fugitive dust from anthropogenic (man-made) sources. The rule also specifies test methods for determining compliance with visible dust emission (VDE) standards, stabilized surface conditions, soil moisture content, silt content for bulk materials, silt content for unpaved roads and unpaved vehicle/equipment traffic areas, and threshold friction velocity (TFV). Records shall be maintained only for those days that a control measure was implemented, and kept for one year following project completion to demonstrate compliance. A fugitive dust management plan for unpaved roads and unpaved vehicle/equipment traffic areas is discussed as an alternative for Rule 8061 and Rule 8071.

## Rule 8020 – Fugitive Dust Requirements for Control of Fine Particulate Matter (PM-10) from Construction, Demolition, Excavation, and Extraction Activities

Requires fugitive dust emissions during construction activities to not exceed an opacity limit of 40 percent for a period or periods aggregating to more than 3 minutes in any 1 hour by means of water application or chemical dust suppressants. The rule also encourages the use of paved access aprons, gravel strips, wheel washers or other measures to limit mud and dirt carry-out onto paved public roads. This rule shall remain in effect until April 30, 2002 or until the effective date of Rule 8021 (Construction, Demolition, Excavation, Extraction and Other Earthmoving Activities), whichever occurs later.

## Rule 8021 – Construction, Demolition, Excavation, Extraction and Other Earthmoving Activities

Requires fugitive dust emissions throughout construction activities (from pre-activity to active operations and during periods of inactivity) to comply with the conditions of a stabilized unpaved road surface and to not exceed an opacity limit of 20 percent, by means of water application, chemical dust suppressants, or constructing and maintaining wind barriers. A Dust Control Plan is also required and shall be submitted to the Air Pollution Control Officer (APCO) at least 30 days prior to the start of any construction activities on any site that include 40 acres or more of disturbed surface area, or will include moving more than 2,500 cubic yards per day of bulk materials on at least three days. The provisions of this rule shall be effective beginning May 15, 2002.

## Rule 8030 – Control of PM-10 from Handling and Storage of Bulk Materials

Limits the fugitive dust emissions from the handling and storage of bulk materials. It specifies that bulk materials be transported using wetting agents, allow appropriate freeboard space in the vehicles, or be covered. It also requires that stored materials be covered or stabilized. This rule shall remain in effect until April 30, 2002 or until the effective date of Rule 8031 (Bulk Materials), whichever occurs later.

## Rule 8031 – Bulk Materials

Limits the fugitive dust emissions from the outdoor handling, storage and transport of bulk materials. Requires fugitive dust emissions to comply with the conditions of a stabilized unpaved road surface and to not exceed an opacity limit of 20 percent. It specifies that bulk materials be transported using wetting agents, allow appropriate freeboard space in the vehicles, or be covered. It also requires that stored materials be covered or stabilized. The provisions of this rule shall be effective beginning May 15, 2002.

## Rule 8041 – Carryout and Trackout

Limits carryout and trackout during construction, demolition, excavation, extraction, and other earthmoving activities (Rule 8021), from bulk materials

handling (Rule 8031), and from unpaved vehicle and equipment traffic areas (Rule 8071) where carryout has occurred or may occur. Specifies acceptable (and unacceptable) methods for cleanup of carryout and trackout. The provisions of this rule shall be effective beginning May 15, 2002.

## Rule 8051 – Open Areas

Requires fugitive dust emissions from any open area having 3.0 acres or more of disturbed surface area, that has remained undeveloped, unoccupied, unused, or vacant for more than seven days to comply with the conditions of a stabilized unpaved road surface and to not exceed an opacity limit of 20 percent, by means of water application, chemical dust suppressants, paving, applying and maintaining gravel, or planting vegetation.

## Rule 8060 – Control of PM-10 from Paved and Unpaved Roads

Specifies the width of paved shoulders on paved roads and guidelines for medians. Requires paving, landscaping, and/or the use of chemical dust suppressants on unpaved roadways, shoulders and medians. This rule shall remain in effect until April 30, 2002 or until the effective date of Rule 8061 (Paved and Unpaved Roads), whichever occurs later.

## Rule 8061 – Paved and Unpaved Roads

Specifies the width of paved shoulders on paved roads and guidelines for medians. Requires gravel, roadmix, paving, landscaping, watering, and/or the use of chemical dust suppressants on unpaved roadways to prevent exceeding an opacity limit of 20 percent. Exemptions to this rule include “any unpaved road segment with less than 75 vehicle trips for that day.” The provisions of this rule shall be effective beginning May 15, 2002.

## Rule 8070 – Fugitive Dust Requirements for Control of Fine Particulate Matter (PM-10) from Vehicle and/or Equipment Parking, Shipping, Receiving, Transfer, Fueling and Service Areas

This rule intends to limit fugitive dust from unpaved parking areas one acre or larger by using water, chemical suppressants or gravel. It also requires that the affected owners/operators shall remove tracked out mud and dirt onto public roadways once a day. This rule shall remain in effect until April 30, 2002 or until the effective date of Rule 8071 (Unpaved Vehicle/Equipment Traffic Areas), whichever occurs later.

## Rule 8071 – Unpaved Vehicle/Equipment Traffic Areas

This rule intends to limit fugitive dust from unpaved vehicle and equipment traffic areas one acre or larger by using gravel, roadmix, paving, landscaping, watering, and/or the use of chemical dust suppressants to prevent exceeding an opacity limit of 20 percent. Exemptions to this rule include “unpaved vehicle and equipment traffic areas on any day which less than 75 vehicle trips occur.” The provisions of this rule shall be effective beginning May 15, 2002.

## Rule 8081 – Agricultural Sources

This rule intends to limit fugitive dust from off-field agricultural sources exempted from Rules 8031 (Bulk Materials), 8061 (Paved and Unpaved Roads), and 8071 (Unpaved Vehicle/Equipment Traffic Areas). Requires fugitive dust emissions to comply with the conditions of a stabilized surface and to not exceed an opacity limit of 20 percent. The provisions of this rule shall be effective beginning May 15, 2002.

# ALTERNATIVES

## CALIFORNIA ENVIRONMENTAL QUALITY ACT CRITERIA

The “Guidelines for Implementation of the California Environmental Quality Act,” Title 14, California Code of Regulation §15126.6(a), provides direction by requiring an evaluation of the comparative merits of “a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project.” In addition, the analysis must address the “no project” alternative. [Cal. Code Regs., tit. 14, §15126.6(e).]

The range of alternatives is governed by the “rule of reason,” which requires consideration only of those alternatives necessary to permit informed decision-making and public participation. CEQA states that an environmental document does not have to consider an alternative of which the effect cannot be reasonably ascertained and of which the implementation is remote and speculative. [Cal. Code of 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 Water Act 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.
- Endangered Species Act of 1973, Title 16, United States Code, section 1531 et seq., and Title 50, code of Federal Regulations, part 17.1 et seq., designates and provides for protection of threatened and endangered plant and animal species, and their critical habitat.
- Migratory Bird Treaty Act, Title 16, United States Code, sections 703-712, prohibit the take of migratory birds.

## STATE

- California Endangered Species Act of 1984, Fish and Game Code sections 2050 et seq. protect California's rare, threatened, and endangered species.
- 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 or Eggs-Take, Possess, or Destroy, Fish and Game Code section 3503.5 protects California's birds of prey and their eggs by making it unlawful to take, possess, or destroy any 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 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.
- Fully Protected Species, Fish and Game Code sections 3511, 4700, 5050, 5515 prohibit take of animals that are classified as Fully Protected in California.
- Significant Natural Areas, Fish and Game Code section 1930 et seq. designates certain areas such as refuges, natural sloughs, riparian areas and vernal pools as significant wildlife habitat.
- Native Plant Protection Act of 1977, Fish and Game Code section 1900 et seq. designates state rare, threatened, and endangered plants.
- California Code of Regulations, Title 14, sections 670.2 and 670.5 list animals of California designated as threatened or endangered.
- Regional Water Quality Control Board:

To verify that the federal Clean Water Act permitted actions comply with state regulations, the project owner would be required to get a Section 401 certification from the San Francisco Bay Regional Water Quality Control Board (RWQCB). The Regional Board provides its certification after reviewing the federal Nationwide Permit(s) provided by the U.S. Army Corp of Engineers.

## LOCAL

- San Joaquin County General Plan:
  The County General Plan provides for the protection of several habitats of major importance, as well as to protect and improve the County's vegetation, fish, and wildlife resources. The Plan also seeks to provide for undeveloped open space for nature study, protection of endangered species, and preservation of wildlife habitat.

# 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 archeological 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.
- National Historic Preservation Act, 16 U.S.C. § 470, commonly referred to as Section 106, requires federal agencies to consider the effects of their undertakings on historic properties through consultations beginning at the early stages of project planning. Regulation revised in 1997 (36 CFR Part 800 et. Seq.) set forth procedures 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 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, Chapter 11.5, Section 4852 defines the term "cultural resource" to include buildings, sites, structures, objects, and historic districts.
- Public Resources Code, Section 5000 establishes a California Register of Historic Places; determines significance of and defines eligible properties; makes any unauthorized removal or destruction of historic resources on sites located on public land a misdemeanor; prohibits obtaining or possessing Native American artifacts or human remains taken from a grave or cairn; 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) (Public Resources Code, Section 21000 et seq.; Title 14, California Code of Regulations, Section 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 adverse effect on

"unique" archeological resources; if so, an EIR shall address these resources. If a potential for damage to unique archeological 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.

- 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

San Joaquin County encourages preservation of historical resources by providing a list of local historic places, points of interest and historic landmarks in the San Joaquin County General Plan.

The City of Tracy encourages preservation of historical resources by providing information regarding historic and cultural resources in the City of Tracy General Plan. The City of Tracy General Plan does not provide a list of known historical resources.

# FACILITY DESIGN

Lists of Laws, Ordinances, Regulations, and Standards (LORS) applicable to each engineering discipline (civil, structural, mechanical and electrical) are described in the AFC (GWF 2001a, Appendices J1 through J5 and Table 2-6). Some of these LORS include; California Building Code (CBC), American National Standards Institute (ANSI), American Society of Mechanical Engineers (ASME), American Society for Testing and Materials (ASTM) and American Welding Society (AWS).

# GEOLOGY AND PALEONTOLOGY

The applicable LORS are listed on pages 8.15-23 to 8.15-24, 8.15-32, 8.16-14 to 8.16-16, and in Appendix J1 of the Application for Certification (01-AFC-16

## FEDERAL

There are no federal LORS for geologic hazards and resources, grading, or paleontologic resources for the project.

## STATE

The California Building Code (CBC) 1998 edition is based upon the Uniform Building Code (UBC), 1997 edition, which was published by the International Conference of Building Officials. The CBC incorporates the UBC by reference, and is a series of minimum standards that are used in the investigation, design (Chapters 16 and 18) and construction (including grading as found in Appendix Chapter 33) of civil structures. The CBC supplements the UBC's grading and construction ordinances and regulations.

The California Environmental Quality Act (CEQA) 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 paleontologic resource or site, or a unique geologic 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 Standard Procedures, Measures for Assessment and Mitigation of Adverse Impacts to Non-renewable Paleontologic Resources (SVP 1994) are a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontologic resources, based on the standard-of-practice. They were adopted in October 1994 by a national organization of vertebrate paleontologists (the Society of Vertebrate Paleontologists), and are part of the LORS to which the project is subject.

## LOCAL

The San Joaquin County Building Department uses the CBC as the minimum design standard for construction.

# HAZARDOUS MATERIALS MANAGEMENT

The following framework of federal, state, and local environmental laws, ordinances, regulations and standards (LORS) exists to ensure the safe and proper use of hazardous materials and to reduce the risks of accidents that might impact worker and public health and the environment. Their provisions have established the basis for staff's determination regarding the significance and acceptability of the Tracy Peaker Project with respect to hazardous materials.

## FEDERAL

The Superfund Amendments and Reauthorization Act of 1986 (Pub. L. 99-499, §301,100 Stat. 1614 [1986]), also known as SARA Title III, contains the Emergency Planning and Community Right To Know Act (EPCRA) as codified in 42 U.S.C. §11001 et seq. This Act requires that certain information about any release to the air, soil, or water of an extremely hazardous material must be reported to state and local agencies.

The Clean Air Act (CAA) of 1990 (42 U.S.C. §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 U.S.C. §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 the CAA are reflected in the California Health and Safety Code, section 25531 et seq.

The Occupational Safety and Health Administration (OSHA) promulgated standards under 29 CFR 1910 et seq. for the protection of workers involved in the use and storage of hazardous materials. Similar measures are included in California Code of Regulations Title 8.

The safety requirements for pipeline construction vary according to population density and land use, in the vicinity of the pipeline. The pipeline classes are defined as follows (Title 49, Code of Federal Regulations, Part 192):

- Class 1: Pipelines in locations with ten or fewer buildings intended for human occupancy.
- Class 2: Pipelines in locations with more than ten but fewer than 46 buildings intended for human occupancy. This class also includes drainage ditches of public roads and railroad crossings.
- Class 3: Pipelines in locations with more than 46 buildings intended for human occupancy, 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).

The natural gas pipeline must meet California Public Utilities Commission General Order 112-D & E and 58-A standards as well as various PG&E 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 population density and land use. This part contains regulations governing pipeline construction that must be followed for Class 2 and Class 3 pipelines.

## STATE

The California Accidental Release Prevention Program (Cal-ARP) - Health and Safety Code, section 25531 - 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).

Section 25503.5 of the California Health and Safety Code requires facilities that store or use hazardous materials to prepare and file a Business Plan with the local Certified Unified Program Authority (CUPA), in this case the San Joaquin County Department of Environmental Health. This Business Plan is required to contain information on the business activity, the owner, a hazardous materials inventory, facility maps, an Emergency Response Contingency Plan, an Employee Training Plan, and other recordkeeping forms.

Title 8, California Code of Regulations, section 5189, requires facility owners to develop and implement effective safety management plans to ensure that large

quantities of hazardous materials are handled safely. While such requirements primarily provide for the protection of workers, they also indirectly improve public safety and are coordinated with the RMP process.

California Health and Safety Code, section 41700, requires that “No person shall discharge from any source whatsoever such quantities of air contaminants or other material which causes injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”

California Vehicle Code Section 32100.5 includes specific regulations for materials that may pose an inhalation hazard.

## LOCAL AND REGIONAL

The California Building Code 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. A further discussion of these requirements is provided in the **Facility Design** portion of this document.

The Uniform Fire Code (UFC) contains provisions regarding the storage and handling of hazardous materials. These provisions are contained in Articles 79 and 80. The latest revision to Article 80 was in 1997 (UFC, 1997). These articles contain minimum setback requirements for the outdoor storage of ammonia.

# LAND USE

## FEDERAL

Federal Aviation Administration (FAA) – Determination of No Hazard to Air Navigation

The Federal Aviation Regulations, Part 77, §77.13 ff, requires notification of development of structures more than 200 feet in height, or encroach into areas of navigable airspace extending outward and upward from the runway of designated airports. The proposed project's tallest structure does not exceed 200 feet, nor the most restrictive radius from nearby airport runways. The proposed project would not exceed the height of nearby, existing transmission towers (GWF 2001a).

## STATE

### Subdivision Map Act (Pub. Resources Code § 66410-66499.58)

The Subdivision Map Act provides procedures and requirements regulating land divisions (subdivisions) and the determining of parcel legality. Regulation and control of the design and improvement of subdivisions, by this Act, has been vested in the legislative bodies of local agencies.

Each local agency by ordinance regulates and controls the initial design and improvement of common interest developments and subdivisions for which the Map Act requires a tentative and final or parcel map.

### California Land Conservation Act of 1965

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space uses. The Williamson Act program is administered by the California Department of Conservation (DOC), in conjunction with local governments, which administer the individual contract arrangements with landowners. The landowner commits the parcel to a 10-year period wherein no conversion out of agricultural use is permitted. Each year the contract automatically renews unless a notice of non-renewal or cancellation is filed. In return, the land is taxed at a rate based on the actual use of the land for agricultural purposes, as opposed to its unrestricted market value. Participation in the Williamson Act program is dependent on county adoption and implementation of the program, and is voluntary for landowners. The proposed project site is currently under a Williamson Act contract, which is due to expire in March 2002.

The Farmland Security Zone is additional agricultural land conservation legislation that went into effect August 24, 1998. This program allows local

governments and landowners to rescind a Williamson contract and simultaneously place the farmland under a Farmland Security Zone contract, which has an initial term of at least 20 years. A Farmland Security Zone contract offers landowners greater property tax reduction than the Williamson Act by valuing enrolled real property at 65 percent of its Williamson Act valuation, or 65 percent of its Proposition 13 valuation, whichever is lower (California State Coastal Conservancy, 1995; California Resources Agency, 1999).

### *Delta Protection Act of 1992*

The California Legislature established the Delta Protection Act in 1992 to declare the Sacramento-San Joaquin Delta as a natural resource to be protected, maintained, and where possible enhanced for agriculture, wildlife habitat, and recreational activities. The act created the Delta Protection Commission with a mandate to develop a long-term resource management plan for the Delta Primary Zone (Public Resources Code § 29700 et seq.). All local government general plans for areas within the Primary Zone are required to be consistent with the Delta Protection Act regional plan for the area.

The Delta Protection Act defines the "Primary Zone" as the delta land and water area of primary state concern and statewide significance that is situated within the boundaries of the delta, but that is outside the urban limit line or sphere of influence line of any local government's general plan or currently existing studies, as of January 1, 1992. The Secondary Zone consists of areas within the statutory Delta (as defined in Section 12220 of the California Water Code) but not part of the Primary Zone. Local plans for land use in the Secondary Zone are not required to conform to the regional plan. The proposed project site exists in the Secondary Zone of the statutory Delta (DPC, 1992).

## LOCAL

Staff reviewed various County land use-related planning documents relevant to the TPP. A discussion of the project's conformity with applicable goals, policies, standards and regulations from these planning documents can be found in the subsection entitled **Compliance with Laws, Ordinances, Regulations and Standards**.

## COUNTY OF SAN JOAQUIN

## San Joaquin County General Plan

Under California State planning law, each incorporated City and 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 and defines large-scale planned development patterns over a relatively long timeframe. 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.

### *POLICIES*

The San Joaquin County General Plan goals and policies listed in **Land Use Table 1** are applicable to the TPP project.

## Land Use Table 1
## San Joaquin County General Plan Goals and Policies Relevant to the Proposed Project

| Relevant County General Plan Goals |
|---|
| Land Use Goal: Provide a well-organized and orderly development pattern that seeks to concentrate urban development and protect the County's agricultural and natural resources. |
| **Relevant Policies – Community Organization and Development Pattern Policies (CODPP)** |
| 7. Residential, commercial, and industrial development shall be shown on the General Plan Map only in communities identified in Figure IV-I, except in the following instances: (a) contiguous, industrial expansion of existing industrial areas; (b) Freeway Service areas; (c) Commercial Recreation areas; or (d) Truck Terminal Areas. |
| 8. Outside of communities (identified in Figure IV-1), existing industrial areas (which may be expanded), Freeway Service areas, Commercial Recreation areas, and Truck Terminal areas, the General Plan Map land use designation shall be Agriculture or other open space designations. |
| 10. Development shall be compatible with adjacent uses. |
| 11. Development should complement and blend in with its setting. |
| 25. Existing infrastructure should be maintained and upgraded when feasible, to reduce the need for new facilities. |
| **Relevant Policies – Agricultural Lands** |
| 5. Agricultural areas shall be used principally for crop production, ranching, and grazing. All agricultural support activities and non-farm uses shall be compatible with agricultural operations and shall satisfy the following criteria: (a) the use requires a location in an agricultural area because of unusual site area requirements, operational characteristics, resource orientation, or because it is providing a service to the surrounding agricultural area; (b) the operational characteristics of the use will not have a detrimental impact on the management or use of surrounding agricultural properties; (c) the use will be sited to minimize any disruption to the surrounding agricultural operations; and (d) the use will not significantly impact transportation facilities, increase air pollution, or increase fuel consumption. |
| 7. There shall be no further fragmentation of land designated for agricultural use, except in the following cases: (a) parcels for homesites may be created, provided that the General Plan density is not exceeded; (b) a parcel may be created for the purpose of separating existing dwellings on a lot, provided the Development Title regulations are met; and (c) a parcel may be created for a use granted by permit in the A-G zone, provided that conflicts with surrounding agricultural operations are mitigated. |
| 8. To protect agricultural land, non-agricultural uses which are allowed in agricultural areas should be clustered, and strip or scattered development should be prohibited. |
| Source: San Joaquin County, 1995a |

The General Plan includes community plans for each of the major urban and rural communities grouped by planning area. The proposed project site is located within the Tracy Planning area, outside the boundaries of communities within the planning area on unincorporated land in the County General Plan's Mountain View region southwest of Tracy. The General Plan does not have specified planning guidelines for this region.

### *San Joaquin County Development Title*

The San Joaquin County Development Title functions as the County's zoning ordinance (Title 9 of the San Joaquin County General Code). It establishes zoning districts and contains regulations governing the use of land and improvement of real property within zoning districts. The Development Title implements the land use policies of the San Joaquin County General Plan (San Joaquin County, 1995c). **Land Use Table 2** provides a description of the Development Title sections applicable to the proposed project.

**Land Use Table 2**
**San Joaquin County Development Title Sections Relevant to the Proposed Project**

| Relevant County Development Title Sections |
|---|
| 9-115.580 Use Classification System - Utility Services |
| The Utility Services use type refers to the provision of electricity, liquids, or gas through wires or pipes. The following are the categories of the Utility Services use type: (a) Minor. Utility services that are necessary to support principal development involving only minor structures. Typical uses include electrical distribution lines, utility poles, and pole transformers. (b) Major. Utility services involving major structures. Typical uses include natural gas transmission lines and substations, petroleum pipelines, and wind farms. |
| 9-605.6(d) Special Use Regulations - Power-Generating Facility |
| A permit approval shall be subject to all of the following findings: (1) The source of the power requires locating the use in an area designated as Agricultural or Resource Conservation in the General Plan; (2) The use will not have a significantly detrimental effect on the agricultural activities in the vicinity; and (3) The site of the use can be rehabilitated for agricultural production or a permitted use in the AG zone if the power source is temporary. |
| Table 9-605.2: Uses in Agricultural Zones |
| Utility Services – Minor is considered a "Permitted Use" in all Agricultural Zones, Major is considered "Use Permitted Subject to Site Approval" in all Agricultural Zones |
| 9-1810.3(b)(1)(Z) Williamson Act Contract Regulations: Uses - Utility Services |
| Williamson Act Contract Regulations: Uses. Property shall be limited to those uses specified herein. (1) The following uses or use types: …Nonresidential:…(Z) Utility Services. |
| Source: San Joaquin County, 1995c |

Electric generating facilities such as the TPP fall under the San Joaquin County Development Title use type of "Utility Services, Major". If San Joaquin County was the lead agency for this project, it would require a conditional use permit to be developed in an agricultural zone, with findings to be made by the County. These findings are discussed in the Impacts section, under the LORS, San Joaquin County Development Title heading.

### *Mountain House Master Plan*

The Mountain House Master Plan follows state guidelines for Specific Plans, though it is called the Master Plan to distinguish it from Specific Plans for smaller areas within the Mountain House community. The Mountain House community is a “new town” development, currently in the grading stage prior to construction, which is located approximately 3.2 miles northwest of the project site. The Mountain House Master Plan implements the amendment to the San Joaquin County 2010 General Plan which added the Mountain House community to the General Plan. The Master Plan presents plans for land use, infrastructure, environmental resources, public service provisions, objectives, policies, and implementation measures (San Joaquin County, 2000).

# NOISE

## 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. **Table 1** lists permissible noise level exposure 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. It should be noted that there are no federal laws governing offsite (community) noise.

**NOISE: Table 1 - OSHA Worker Noise Exposure Standards**

| Duration of Noise (Hrs/day) | A-Weighted Noise Level (dBA[1]) |
|---|---|
| 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: OSHA Regulation

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," (VdB) 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). This is the level of vibration that a person could barely feel. 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. Vibration levels greater than this could cause damage (e.g., cracking in walls) to buildings and other structures.

## STATE

California Government Code Section 65302(f) encourages each local government entity to perform noise studies and implement a noise element as

[1] For definitions of acoustical terms, please refer to NOISE: Appendix A, Table A-1.

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 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 "pure tone" which can be used to determine whether a noise source contains significant annoying tonal components. The Model Community Noise Control Ordinance further recommends that, when a pure tone is present, the applicable noise standard should be lowered (made more stringent) by 5 dBA.

## California Environmental Quality Act (CEQA)

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 ground borne vibration or ground borne 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 exists 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.

## California Occupational Safety and Health Administration (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 described above.

## LOCAL

The San Joaquin County Code (Section 9-1025.9) establishes environmental noise limits for noise sensitive land uses receiving the noise. No noise sensitive land uses directly abut the project. An industrial use lies to the north, the Delta-Mendota Canal to the west, and agricultural uses to the south and east. According to the San Joaquin County noise ordinance, the allowable noise exposure at the receiving noise sensitive property line is 50 dBA Leq during the daytime (7:00 a.m. to 10:00 p.m.) and 45 dBA Leq during the nighttime (10:00 p.m. to 7:00 a.m.). These noise limits would apply during the operational phase of the plant. Noise from construction activities is exempt between the hours of 6:00 a.m. and 9:00 p.m. on any day. Any construction outside of these hours would have to comply with the ordinance limits identified above.

The nearest residential land use to the project site is approximately 1,480 feet (0.28 miles) to the west (Site LT-2). Residences also lie to the east of the project with the closest property line approximately 2,340 feet (0.44 miles) from the project site (near Site LT-1).

# 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 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 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 section 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 sections 39650 et seq.

These sections mandate that the Air Resources Board and the Department of Health Services 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.”

# SOCIOECONOMICS

## FEDERAL

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

Civil Rights Act of 1964, Public Law 88-352, 78 Stat. 241 (Codified as amended in scattered sections of 42 U.S.C.) Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color, or national origin in all programs or activities receiving federal financial assistance.

## STATE

### California Government Code, Sections 65995-65997

As amended by SB 50 and other statutory amendments (Stats. 1998, ch. 407, sec. 23), these sections provide that, notwithstanding any other provisions of local or state law, including the California Environmental Quality Act (CEQA), state and local agencies may not require mitigation for the development of real property for effects on school enrollment except as provided by new provisions in the Government Code (Govt. Code, Sec. 65996(a). The local administering agency for implementing school impact fees in the project area is the Building Division of the San Joaquin County Community Development Department (Martin, 2001).

### Title 14 California Code of Regulations, Section 15131

Title 14 California Code of Regulations, Section 15131 provides that economic or social effects of a project shall not be treated as significant effects on the environment. However, economic or social factors of a project may be used to determine the significance of physical changes caused by the project. In addition, 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.

## LOCAL

### San Joaquin County General Plan 2010, 1992

The TPP is located in unincorporated San Joaquin County land, and therefore, the TPP is subject to the guidelines identified within the San Joaquin County General Plan. The following San Joaquin County General Plan policy applies to the proposed TPP:

Policy No. 15 Development shall minimize impacts on the County's resources.

# SOIL AND WATER RESOURCES

## FEDERAL

### Clean Water Act

The Clean Water Act (33 USC § 1251**)** was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The Clean Water Act (CWA) requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water.

### Section 402(p) Storm Water Discharge

- *Section 402(p)* of the CWA establishes a framework for regulating municipal and industrial storm water discharges under the National Pollutant Discharge Elimination System (NPDES) Program. United States Environmental Protection Agency (EPA) NPDES regulations require that discharges of storm water to waters of the United States from construction projects that encompass 5 acres or more of soil disturbance must obtain an NPDES Permit. The State Water Resources Control Board (SWRCB) has adopted a statewide General NPDES Permit that applies to all storm water discharges associated with construction activity, except from those on Tribal Lands, in the Lake Tahoe Hydrologic Unit, and those performed by the California Department of Transportation. This general permit requires all dischargers where construction activity disturbs 5 acres or more to:

    1. Develop and implement a Storm Water Pollution Prevention Plan (SWPPP), which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting storm water and with the intent of keeping all products of erosion from moving off-site into receiving waters.

    2. Eliminate or reduce nonstorm water discharges to storm sewer systems and other waters of the nation.

    3. Perform inspections of all BMPs.

The General NPDES Permit is implemented and enforced by the nine California Regional Water Quality Control Boards (RWQCBs).

## STATE

### 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 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 TPP is within the jurisdiction of the Central Valley Regional Water Quality Control Board headquartered in Sacramento. Water quality criteria for the project area are contained in the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins. This plan sets numerical and/or narrative water quality standards controlling the discharge of wastes to the state's waters and land. These standards are applied to the proposed project through the Waste Discharge Requirements (WDRs) permit.

### California Water Code

California Water Code Section 13550 requires the use of reclaimed water, where available, for nonpotable uses. The use of potable domestic water for nonpotable uses, including industrial uses, is considered a waste or an unreasonable use of the water within the meaning of Section 2 of Article X of the California Constitution if recycled water is available.

California Water Code Section 13260 requires any person discharging waste or proposing to discharge waste within any region that could affect the quality of the waters of the state, other than into a community sewer system, must submit a Report of Waste Discharge to the RWQCB.

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.

## LOCAL

### San Joaquin County

Chapter 9-1400 of the San Joaquin County Ordinance provides a permitting process for construction excavation, grading, and earthwork within San Joaquin County. San Joaquin County Development Title 9 covers the review of septic tank design and installation

## STATE POLICIES

### State Water Resources Control Board (SWRCB) Policies

The SWRCB has adopted a number of policies that provide guidelines for water quality protection. The principle policy of the SWRCB that specifically addresses the siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant 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 wastewaters of low total dissolved solids (TDS); and other inland waters. This policy also addresses cooling water discharge prohibitions.

# TRANSMISSION LINE SAFETY AND NUISANCE

Discussed below by subject area are design-related federal or state LORS and industry standards and practices applicable to the physical impacts of the TPP-related line and transmission systems in general. There presently are no local laws or regulations specifically applicable to the physical structure or dimensions of electric power lines to limit the impacts noted above.

## AVIATION SAFETY

Any hazard to area aircraft relates to the potential for collision with the line in the navigable air space. The applicable federal LORS as discussed below are intended to ensure the location 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 any significant hazards to area aviation.
- 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 perceivable impacts produced by the line’s electric fields. The level of 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 or intensity 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, which interfere with radio communications, even if (as with transmission lines) such devices are not intentionally designed to produce radio-frequency energy. Such interference results from 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 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 usually recommends specific conditions of certification to ensure compliance with this FCC requirement as necessary. The applicable condition for this project is **TLSN-3**.

## 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 in 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 regulations to limit the audible noise from transmission lines. As with radio noise, such noise is limited instead by using design and maintenance standards established from industry research and experience as effective without significant impacts on line safety, efficiency maintainability and reliability. All high-voltage lines are designed to assure compliance. Such 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. Since (as with communications interference) the noise level depends on the strength of the line electric field, the potential for occurrence can be assessed from estimates of the field strengths

expected during operation. Such noise is usually generated during wet weather and from lines of 345 kV or higher. Research by the Electric Power Research Institute (EPRI 1982) has validated this by showing the fair-weather audible noise from modern transmission lines to be generally indistinguishable from background noise at the edge of a 100-ft right-of-way.

## NUISANCE SHOCKS

### Industry Standards

There are no design-specific federal regulations to limit nuisance shocks in the transmission line environment. For modern high-voltage lines, such shocks are effectively minimized through grounding procedures specified in the National Electrical Safety Code 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. The line owner is responsible in all cases for ensuring compliance with these grounding-related practices within the right-of-way. Staff usually recommends specific conditions of certification to ensure that both the applicant and property owners make such grounding within the right-of-way. The applicable condition for this project is **TLSN-2**.

## 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 Section 1250 of the California Code of Regulations, “Fire Prevention Standards for Electric Utilities” specifies utility-related measures for fire prevention.

Compliance with these regulation would minimize the potential for such fires.

## HAZARDOUS SHOCKS

The hazardous shocks that are addressed by the following regulations and standards are those that could result from direct or indirect contact between an individual and the energized line. 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, Sections 2700 through 2974 of the California Code of Regulations, “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.

### Industrial Standards

There are no design-specific federal regulations to prevent hazardous shocks from power lines. Safety is assured through 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 considering both together as EMF exposure. The available evidence as evaluated by CPUC, other regulatory agencies, and staff has not established that such fields pose a significant health hazard to exposed humans. However, staff considers it important, as does the CPUC, to note that while such a hazard has not been established from the available evidence, the same evidence does not serve as proof of a definite lack of a hazard. Therefore, staff considers it appropriate, in light of present uncertainty, to reduce the strengths of such fields where feasible, until the issue is better understood. The challenge has been to establish when and how far to reduce them.

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 patterns of exposures have not been established.
- Most health concerns relate to 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 below levels existing before the present health concern arose. The CPUC has further determined that such reduction should be made only for new or modified lines. It required PG&E and the other utilities within its jurisdiction to include effective EMF-reducing measures in their design guidelines 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 for each new or upgraded line with regard to redesign to reduce field strengths or relocation to reduce exposure levels. 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 Energy Commission requires field strength calculations showing that each proposed line will be designed or upgraded to incorporate the EMF-reducing design guidelines applicable to the utility service area involved. The related 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 in ways that do not affect line operation.

The extent of the field-reducing measures will be reflected by ground-level field strengths as calculated in the application process and verified through measurements in the operational phase. Such field strength estimates can be used by staff and other regulatory agencies to compare lines of similar voltage and current-carrying capacity for effective implementation of the required field reduction measures. These field strength estimates can be made 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 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 similar, in intensity, to fields from similar lines in that service area. A condition of certification is usually proposed by staff to verify implementation of the reduction

measures necessary. The applicable condition for certification for this project is **TLSN-1**.

## Industrial Standards

No federal regulations have been established 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 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, Montana, New Jersey, and New York) 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, as does staff, that health-based limits are inappropriate at this time. They also believe 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 building materials to potentially produce the types of health impacts at the root of the present concern. As one focuses on the relatively strong magnetic fields from the more visible transmission and other high-voltage power lines, staff considers 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. Staff notes such exposure differences only to show that high-level magnetic field exposures regularly occur in areas other than the power line environment.

# TRAFFIC AND TRANSPORTATION

## FEDERAL

- 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.
- Title 14, Code of Federal Regulations, Part 77, Federal Aviation Regulations (FAR) provide regulations and requirements for insuring the safe, efficient, and secure use of the Nation's airspace, by military as well as civil aviation, for promoting safety in air commerce, for encouraging and developing civil aeronautics, including new aviation technology, and for supporting the requirements of national defense.
- FAR Section 77:"(a) Establishes standards for determining obstructions in navigable airspace; (b) Sets forth the requirements for notice to the Administrator of certain proposed construction or alteration; (c) Provides for aeronautical studies of obstructions to air navigation, to determine their effect on the safe and efficient use of airspace; (d) Provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and (e) Provides for establishing antenna farm areas."

## STATE

- California Vehicle Code, Section 353 defines hazardous materials.
- California Vehicle Code, Sections 31303-31309 regulate the highway transportation of hazardous materials, the routes used, and restrictions thereon.
- California Vehicle Code, Sections 31600-31620 regulate the transportation of explosive materials.
- California Vehicle Code, Sections 32000-32053 regulate the licensing of carriers of hazardous materials and includes noticing requirements.
- California Vehicle Code, Sections 32100-32109 establish special requirements for the transportation of inhalation hazards and poisonous gases.
- California Vehicle Code, Sections 34000-34121 establish special requirements for the transportation of flammable and combustible liquids over public roads and highways.

- California Vehicle Code, Sections 34500 et seq. regulate the safe operation of vehicles, including those that are used for the transportation of hazardous materials.
- California Vehicle Code, Sections 2500-2505 authorize the issuance of licenses by the Commissioner of the California Highway Patrol for the transportation of hazardous materials including explosives.
- California Vehicle Code, Sections 13369, 15275, and 15278, address the licensing of drivers and the classifications of licenses required for the operation of particular types of vehicles. In addition, these sections require the possession of certificates permitting the operation of vehicles transporting hazardous materials.
- California Streets and Highways Code, Sections 117 and 660-72, and California Vehicle Code 35780 et seq., require permits for the transportation of oversized loads on county roads.
- California Streets and Highways Code, Sections 660, 670, 1450, 1460 et seq., and 1480 et seq., regulate right-of-way encroachment and the granting of permits for encroachment on state and county roads.
- California Health and Safety Code, Section 25160 et seq., addresses the safe transport of hazardous materials.

## LOCAL

- San Joaquin Regional Transportation Plan (SJTRP) - is administered by the San Joaquin Council of Governments (SJCOG) to establish regional transportation goals, policies, and objectives for all transportation systems and activities within the county.
- San Joaquin County General Plan; Transportation/Circulation Element - is used in conjunction with the General Plan's Land Use element as guidance for developments and improvements in the transportation/circulation system.
- San Joaquin Regional Transit Systems Plan Update - analyzes future service requirements of the public transportation system to meet short and long-term goals.
- San Joaquin County Regional Bicycle Master Plan-also administered by SJCOG to coordinate local and regional plans with a goal of establishing a countywide system of bicycle facilities to lessen traffic congestion and improve air quality.
- City of Tracy General Plan, Circulation Element-- presents goals and policies to coordinate the transportation and circulation system with planned land uses and to promote the efficient movement of people, goods and services within the Urban Management Planning Area.

## TRANSMISSION SYSTEM ENGINEERING

- California Public Utilities Commission (CPUC) General Order 95 (GO-95), “Rules for Overhead Electric Line Construction”, and General Order 128 (GO-128) “Rules for Underground Electric Line Construction”, formulate uniform requirements for construction of overhead and underground lines. Compliance with these orders ensures adequate service and safety to persons engaged in the construction, maintenance and operation or use of overhead and underground electric lines and to the public in general.
- CPUC Rule 21 provides standards for the reliable connection of parallel generating stations connected to participating transmission owners.
- The National Electric Safety Code (NESC), 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, loading and loss of load that may occur on systems during various disturbances. Performance levels range from no significant adverse effects inside and outside a system area during a minor disturbance (loss of load or a single transmission element out of service) to that seeks to prevent system cascading and the subsequent blackout of islanded areas during a major disturbance (such as loss of multiple 500 kV lines in a right of way and/or multiple generators). While controlled loss of generation, load, or system separation is permitted in certain circumstances, their uncontrolled loss is not permitted (WSCC 2000).
- North American Electric Reliability Council (NERC) Planning Standards provides 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. 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. 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.

# VISUAL RESOURCES

## FEDERAL

The proposed project, including the linear facilities, is not located on federally administered public lands and is not subject to federal regulations pertaining to visual resources.

## STATE

Interstate 580 (I-580) in San Joaquin County from Interstate 5 to the Alameda County line is designated as a State Scenic Highway (State Scenic Highway System Web Site). Therefore, state standards pertaining to scenic resources are applicable to the project. No other roadways in the project vicinity are eligible or designated as State Scenic Highways; therefore, no additional state standards pertaining to scenic resources are applicable to the project.

## LOCAL

The proposed power plant and linear facilities are located within the County of San Joaquin. Therefore, the project would be subject to local LORS pertaining to the protection and maintenance of visual resources. LORS applicable to the proposed project are found in the San Joaquin County General Plan (San Joaquin County 1992). There are several LORS related to visual resources in the county general plan that are pertinent to this project. Applicable LORS in the San Joaquin County General Plan regarding visual resources are found primarily in the Open Space section of the plan. These include Open Space Policy 12, which identifies I-580 as a scenic route, and Open Space Implementation regulation 7, which requires that landscape plans be prepared for development along scenic routes. An assessment of the project's consistency with the relevant LORS is presented in a later section of this analysis.

# WASTE MANAGEMENT

## FEDERAL

### Resource Conservation and Recovery Act, RCRA (42 U.S.C. § 6922)

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 the generators of hazardous wastes to comply with requirements regarding:

- record keeping practices, which identify the quantities and disposal of hazardous wastes generated,
- labeling practices and use of appropriate containers,
- use of a recording or manifest system for transportation, and
- submission of periodic reports to the EPA or an authorized state agency.

### Title 40, Code of Federal Regulations, Sections 260-272

These sections specify the regulations promulgated by the U.S. Environmental Protection Agency to implement the requirements of RCRA as described above. To facilitate such implementation, the defining characteristics of each hazardous waste are specified in terms of toxicity, ignitability, corrosivity, and reactivity.

### Title 49, Code of Federal Regulations, Sections 172, 173 and 179

These sections provide standards for the packing, labeling, documenting and shipping of hazardous wastes.

## STATE

### California Health and Safety Code § 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 or 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 specific criteria and guidelines for classifying such wastes. The Act also requires all hazardous waste generators to file specific notification statements with Cal EPA and creates a manifest system to be used when transporting such wastes.

## California Health and Safety Code, Section 41700

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."

## Title 14, California Code of Regulations, § 17200 et seq. (Minimum Standards for Solid Waste Handling and Disposal)

These regulations specify the minimum standards applicable to the handling and disposal of solid wastes. They also specify the guidelines necessary to ensure that all solid waste management facilities comply with the solid waste management plans of the administering county agency and the California Integrated Waste Management Board.

## Title 22, California Code of Regulations, § 66262.10 et seq. (Generator Standards)

These sections establish specific requirements for generators of hazardous wastes with respect to handling and disposal. Under these requirements, all waste generators are required to determine whether or not their wastes are hazardous according to state-specified criteria. As with the federal program, every hazardous waste generator is required to obtain an EPA identification number, prepare all relevant manifests before transporting the waste off-site, and use only permitted treatment, storage, and disposal facilities. Additionally, all hazardous wastes are required to be handled only by registered hazardous waste transporters. Requirements for record keeping, reporting, packaging, and labeling are also established for each generator.

# LOCAL

The San Joaquin County Public Works Department has the responsibility for the administration and enforcement of the California Integrated Waste Management Act for non-hazardous solid waste from the proposed project. The applicant is required to complete the County's "Construction and Demolition Debris Waste Diversion Plan" and the "Solid Waste Operation Plan". These plans address the quantities of both solid and hazardous wastes generated during the construction phase, the amount and types of materials to be recycled, reused or disposed, and the projected waste generation when the project becomes operational.

The San Joaquin County Environmental Health Department is the Certified Unified Permitting Authority (CUPA) that will administer and enforce compliance with the Hazardous Waste Control Act. This agency will also regulate hazardous waste management, handling and disposal procedures at the proposed project. County ordinance Code, Chapter 9-1160, requires the applicant to provide a narrative response to the "Requirements for Collection and Recycling" and the location and space for recycling bins.

# WORKER SAFETY AND FIRE PROTECTION

## FEDERAL

In December 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, § 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 §§ 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 this OSH Act represent a compilation of materials from 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 congressional 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 U.S.C. § 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.C. § 651 et seq. (Occupational Safety and Health Act of 1970);
- 29 C.F.R. §1910.1 - 1910.1500 (Occupational Safety and Health Administration Safety and Health Regulations);
- 29 C.F.R. §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 C.F.R. §1910.1 – 1910.1500).

## STATE

California passed the Occupational Safety and Health Act ("Cal/OSHA") in 1973, as published in the California Labor Code section 6300. Regulations promulgated as a result of the Act are codified as Title 8 of the California Code of Regulations, beginning with sections 337-560 and continuing with sections 1514 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 published at 29 C.F.R. §1910.1 - 1910.1500. 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.

Title 8, California Code of Regulations, section 3203 requires that employers establish and maintain a written Injury and Illness Prevent Program to identify workplace hazards and communicate them to its employees through a formal employee-training program.

Applicable State requirements include:

- Cal. Code Regs., tit. 8, § 339 - List of hazardous chemicals relating to the Hazardous Substance Information and Training Act;
- Cal. Code Regs., tit. 8, § 337, et seq. Cal/OSHA regulations;
- Cal. Code Regs., tit. 24, § 3, et seq. - incorporates the current addition of the Uniform Building Code;
- Health and Safety Code § 25500, et seq. - Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at the facility;
- Health and Safety Code §§ 25500 - 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 is comprised 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 & safety departments enforce the California Uniform Building Code.

National Fire Protection Association (NFPA) standards are published in the California Fire Code. The fire code contains general provisions for fire safety, including but not restricted to: 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 reflects the body of regulations published at Part 9 of Title 24 (H&S Code §18901 et seq.) pertaining to the California Fire Code.

Similarly, the Uniform Fire Code Standards, a companion publication to the California Fire Code, contains 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.

Applicable local (or locally enforced) requirements include:

- 1998 Edition of California Fire Code and all applicable NFPA standards (24 Cal. Code Regs. Part 9);
- California Building Code Title 24, California Code of Regulations (24 Cal. Code Regs. § 3, et seq.); and
- Uniform Fire Code, Article 80, 1998.

The California Fire Code requires that industrial plants submit plans for review and approval by the City of Tracy Fire Department.

# *Appendix B*

## *Proof of Service List*

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

| | |
|---|---|
| **Application for Certification of the GWF TRACY PEAKER PROJECT IN SAN JOAQUIN COUNTY**<br><br>**(GWF ENERGY LLC)** | **Docket No. 01-AFC-16**<br><br>**PROOF OF SERVICE**<br>***(*REVISED 02/20/02)*** |

I, _____, declare that on _____, 2002, I deposited copies of the attached _____ in the United States mail at Sacramento, CA with first class postage thereon fully prepaid and addressed to the following:

**DOCKET UNIT**

*Send the original signed document plus the required 12 copies to the address below:*

**CALIFORNIA ENERGY COMMISSION**
**DOCKET UNIT, MS-4**
***Attn: Docket No. 01-AFC-16**
**1516 Ninth Street**
**Sacramento, CA 95814-5512**
*** * * ***
*In addition to the documents sent to the Commission Docket Unit, also send individual copies of any documents to:*

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**INTERESTED PARTICIPANTS**

The Honorable Barbara Matthews
Member, State Assembly
31 E. Channel Street, Room 306
Stockton, CA 95202

I declare under penalty of perjury that the foregoing is true and correct.

_____
*[signature]*

# *Appendix C*

## *Exhibit List*

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

| | |
|---|---|
| **APPLICATION FOR CERTIFICATION OF THE GWF TRACY PEAKER PROJECT IN SAN JOAQUIN COUNTY**<br><br>**(GWF ENERGY LLC)** | **DOCKET NO. 01-AFC-16**<br><br>**APPLICATION COMPLETE (DATA ADEQUATE) OCTOBER 17, 2001** |

## EXHIBIT LIST

EXHIBIT 1: Application for Certification, dated, August 2001 – Sections 1, 2, 3, 3.5, 4, 5, 6, 7, 8.1, 8.2, 8.3, 8.4 (including 5 figures 8.4-1 through 8.4-5), 8.5, 8.6, 8.8, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15 & 8.16; and Appendices A, B, C, E, F, I, J, K & L, and remainder of all AFC sections. Sponsored by Applicant; portions admitted into evidence on March 6, 7, and 8, 2002.

EXHIBIT 2: Application for Certification Supplement, dated, October 2001 – Sections 3.1, 3.2, 3.3, 3.4, 3.6, 3.8, 3.10, 3.11, 3.12, 3.13, 3.14, 5, 8.2, 8.4, 8.5 & 8.14; and Appendices D & E, and remainder of all AFC Supplement sections. Sponsored by Applicant; portions admitted into evidence on March 6, 7, and 8, 2002.

EXHIBIT 3: Comments by GWF Energy LLC on CEC Staff Report – dated, January 2002. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 4: CEC Staff Assessment, dated, December 2001. Sponsored by CEC staff; admitted into evidence on March 6, 2002.

EXHIBIT 5: California Installed Capacity with Heat Rate Greater than 11,890 Btu/kWh (diagram). Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 6: California Installed Capacity with Heat Rate Greater than 11,890 Btu/kWh (table). Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 7: 1998 California Peaking and Intermediate Plan NOx Emission Rates (diagram). Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 8: 1998 California Peaking and Intermediate Plan NOx Emission Rates (table). Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 9: Applicant's Initial System Impact Study – submitted August 2001 Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 10: Revision 1 to Applicant's System Impact/Facilities Study – submitted on August 2001. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 11: Data Response 38, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 12: Wet Weather Construction Contingency Plan, Sections 2.1 & 2.5 & Appendices A, D & E, dated, December 10, 2001, and remainder of all plan sections. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 13: Sarvey's 3-page Combined Cycle Technology document. Admitted as administrative hearsay. Submitted by Intervenor Sarvey; admitted as evidence on March 6, 2002.

EXHIBIT 14: Data Responses 14-15, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 15: Data Responses 83-84, dated, November 28, 2001. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 16: Minutes of the October 25, 2001 Meeting of the San Joaquin Council of Governments Board of Directors approving covering under SJMSCP provided for record by CEC staff. Sponsored by Applicant; admitted into evidence on March 6, 2002

EXHIBIT 17: Supplement to Staff Assessment. Sponsored by staff; admitted into evidence on March 6, 2002.

EXHIBIT 18: Additional Sarvey testimony dated, February 13, 2002. Admitted as administrative hearsay. Submitted by Intervenor Sarvey; admitted as evidence on March 6, 2002.

EXHIBIT 19: Data Responses 68-81 and attachments. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 20: Will Serve Letter from Plainview Water District – submitted on July 31, 2001. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 21: Site Option Agreement – submitted on July 10, 2001. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 22: Phiney declaration. Submitted by Intervenor City of Tracy; admitted into evidence on March 6, 2002.

EXHIBIT 23: Data Response Number 27. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 24: Real Property Value Assessment Study – submitted on January 11, 2002. Sponsored by Applicant; admitted into evidence on March 6, 2002.

EXHIBIT 25: Data Responses 1-13, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 26: Supplement to First Set of Data Responses 2A, 2D, 9, 10, 13 & 82 dated, November 28, 2001. Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 27: Supplement to First Set of Data Responses – submitted on November 28, 2001. Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 28: Determination of Compliance Application and included Certificate of Compliance – submitted on August 17, 2001. Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 29: Air Quality and Public Health Modeling Files – submitted on August 16, 2001. Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 30: Cumulative Air Impacts Study – submitted on March 4, 2002. Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 31: Response to Data Request re: Cumulative Air Quality analysis from Robert Sarvey, dated February 3, 2002 – submitted on February 13, 2002. Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 32: Response to Data Request re: Air Quality from Robert Sarvey, dated, February 3, 2002 (February 13, 2002). Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 33: Response to Data Request - 3 from Irene Sundberg, dated, February 3, 2002 – (February 13, 2002). Sponsored by Applicant; admitted into evidence on March 7, 2002.

EXHIBIT 34: Final Determination of Compliance on Air Quality. Sponsored by staff; admitted into evidence on March 7, 2002.

EXHIBIT 35: Staff Modeling Diagrams (1-8) used as visual aids in Air Quality. Sponsored by staff; admitted into evidence on March 7, 2002.

EXHIBIT 36: Testimony of Phiney & Reed. Submitted by Intervenor City of Tracy; admitted into evidence on March 7, 2002.

EXHIBIT 37: "Non-expert" testimony of Mike Boyd. Submitted by Intervenor Sarvey; admitted into evidence on March 7, 2002.

EXHIBIT 38: "Non-expert" testimony of Dario Marenco. Submitted by Intervenor Sundberg; admitted into evidence on March 7, 2002.

EXHIBIT 39: Data Response 26, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 8, 2002.

EXHIBIT 40: South Shulte & Tracy Hills Specific Plans. Submitted by Intervenor Sarvey; admitted into evidence on March 8, 2002.

EXHIBIT 41: Data Response 26, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 8, 2002. (same as exhibit 39)

EXHIBIT 42: Data Response to Intervenor Irene Sundberg, dated, February 6, 2002. Sponsored by Applicant; admitted into evidence on March 8, 2002.

EXHIBIT 43: Data Response 67, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 8, 2002.

EXHIBIT 44: Construction Demolition Debris Diversion Plan & Solid Waste Operation Plan. Sponsored by Applicant; admitted into evidence on March 8, 2002.

EXHIBIT 45: Data Responses 28-37, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 8, 2002.

EXHIBIT 46: Data Response 25, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 8, 2002.

EXHIBIT 47: Data Responses 17-24 and attachments. Sponsored by Applicant; admitted into evidence on March 8, 2002.

EXHIBIT 48: Suggested additional Air Quality Conditions requested by CEC staff. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 49: Data Responses 39-66, dated, November 9, 2001. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 50: Data Response 58 of the Supplement to the First Set of Data Responses, dated, November 28, 2001. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 51: Landscape Plan and Additional Visual Simulations, dated, January 10, 2002. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 52: Letter from US Fish and Wildlife Service to CEC regarding Landscaping, dated, January 8, 2002. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 53: Attached Revised Landscaping Plan along with Visuals of Key Observation Points 1, 9 & 10, respectively, for the Tracy Peaker Project, docketed, March 1, 2002. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 54: Memorandum on Supplemental Ambient Noise Measurements in the Vicinity of the Proposed Tracy Peaker Project. Admitted as administrative hearsay. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 55: Location of 39 Dba contour and 42 Dba contour, docketed in March 2002. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 56: Applicant's Land Use Testimony of Jennifer Hernandez (filed February 13, 2002). Exhibit boards used during Hernandez testimony were admitted only for purpose of explaining the testimony. These exhibits were made part of Ex. 56 and included the Site Maps attached to the written testimony indicating the Current Zoning Districts in the Area Surrounding the TPP, and Residential Development Constraints of the Proposed Site, which

supplement Figures 1-5 from Section 8.4 of the AFC; Figure 6 – Zoning Districts Surrounding the TPP; Figure 7 – Residential Development Constraints of Proposed Site; and Figure 8 – California Power Project Map from CEC Web Site. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 57: Findings for Approval. Submitted by Intervenor Sarvey on March 13, 2002.

EXHIBIT 58: Mitigation Agreement with American Farm Land Trust, dated, January 16, 2002. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 59: Lot Line Adjustment – San Joaquin County, docketed January 7, 2002. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 60: Letter from San Joaquin Community Development Department re: land use conformity – submitted on September 18, 2001 (contained in Supplement to Application – Attachment 3.5-1 (October 2001). Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 60A: The City of Tracy's Tracy Hills Specific Plan, Draft Environmental Impact Report, and Final Environmental Impact Report. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 60B: The City of Tracy's South Schulte Specific Plan, Draft Environmental Impact Report, and Final Environmental Impact Report. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 60C: The San Joaquin County Land Use Requirements including the General Plan, Development Code, and Adopted Administrative Development Standards. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 60D: The City of Tracy Land Use Requirements including the General Plan and Zoning Ordinance. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 61: The San Joaquin County Agency Referrals, Initial Study and Negative Declaration with findings for the approved Wellhead Power Project on an adjacent parcel, dated, April 13, 2001. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 62: Map from General Plan from the City of Tracy's current General Plan/Urban Management Plan [map with plans and projects colored in and referred to in the Hernandez testimony; admitted with limitations – to be used only to explain her testimony]. Sponsored by Applicant; admitted into evidence on March 13, 2002.

EXHIBIT 63: Agency Distribution Lists – Request for Participation (with service list). Three lists were submitted; only one dated August 22, 2001. Sponsored by staff; admitted into evidence on March 14, 2002

EXHIBIT 64: Errata to Soil & Water Resources Conditions 3 & 5. Sponsored by staff; admitted into evidence on March 28, 2002.

EXHIBIT 65: Data Responses – submitted on November 9, 2001. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 66: Wet Weather Construction Plan Supplement – submitted on December 11, 2001. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 67: Applicant's Prefiled Testimony – submitted on January 24, 2002. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 68: Applicant's Revised Testimony – submitted on February 13, 2002. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 69: Data Responses – submitted on December 28, 2001. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 70: Proposed Coverage under San Joaquin Multispecies Conservation Plan – submitted on September 6, 2001. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 71: Tracy Advisory Committee (TAC) Committee Findings – submitted on October 10, 2001. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 72: Rana Report – submitted on December 28, 2001. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 73: Supplemental Biological Resources Assessment Letter – submitted on December 25, 2001. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 74: Letter from Department of Conservation to CEC – submitted on September 27, 2001. Sponsored by Applicant; admitted into evidence on March 28, 2002.

EXHIBIT 75: Certificate of Compliance (required by proposed Condition LAN-1). Sponsored by Applicant; admitted into evidence on March 28, 2002.

# Appendix D

## Glossary of Terms and Acronyms

# GLOSSARY OF TERMS AND ACRONYMS

| | |
|---|---|
| | A |
| A | Ampere |
| AAL | all aluminum (electricity conductor) |
| AAQS | Ambient Air Quality Standards |
| ABAG | Association of Bay Area Governments |
| AC | alternating current |
| ACE | Argus Cogeneration Expansion Project Army Corps of Engineers |
| ACSR | aluminum covered steel reinforced (electricity conductor) |
| AFC | Application for Certification |
| AFY | acre-feet per year |
| AHM | Acutely Hazardous Materials |
| ANSI | American National Standards Institute |
| APCD | Air Pollution Control District |
| APCO | Air Pollution Control Officer |
| AQMD | Air Quality Management District |
| AQMP | Air Quality Management Plan |
| ARB | Air Resources Board |
| ARCO | Atlantic Richfield Company |
| ASAE | American Society of Architectural Engineers |
| ASHRAE | American Society of Heating Refrigeration & Air Conditioning Engineers |
| ASME | American Society of Mechanical Engineers |
| ATC | Authority to Construct |
| | B |
| BAAQMD | Bay Area Air Quality Management District |
| BACT | Best Available Control Technology |
| BAF | Basic American Foods |
| BARCT | Best Available Retrofit Control Technology |
| bbl | barrel |
| BCDC | Bay Conservation and Development Commission |
| BCF | billion cubic feet |
| Bcfd | billion cubic feet per day |
| b/d | barrels per day |
| BLM | Bureau of Land Management |
| BPA | U.S. Bonneville Power Administration |
| BR | Biennial Report |
| Btu | British thermal unit |
| | C |
| CAA | U.S. Clean Air Act |
| CAAQS | California Ambient Air Quality Standards |
| CALEPA | California Environmental Protection Agency |
| CALTRANS | California Department of Transportation |
| CAPCOA | California Air Pollution Control Officers Association |
| CBC | California Building Code |
| CCAA | California Clean Air Act |
| CDF | California Department of Forestry |
| CDFG | California Department of Fish and Game |
| CEERT | Coalition for Energy Efficiency and Renewable Technologies |
| CEM | continuous emissions monitoring |
| CEQA | California Environmental Quality Act |
| CESA | California Endangered Species Act |
| CFB | circulating fluidized bed |
| CFCs | chloro-fluorocarbons |
| cfm | cubic feet per minute |

| | |
|---|---|
| CFR | Code of Federal Regulations |
| cfs | cubic feet per second |
| CLUP | Comprehensive Land Use Plan |
| CNEL | Community Noise Equivalent Level |
| CO | carbon monoxide |
| $CO_2$ | carbon dioxide |
| COI | California Oregon Intertie |
| CPCN | Certificate of Public Convenience & Necessity |
| CPM | Compliance Project Manager |
| CPUC | California Public Utilities Commission |
| CT | combustion turbine<br>current transformer |
| CTG | combustion turbine generator |
| CURE | California Unions for Reliable Energy |
| | D |
| dB | decibel |
| dB(A) | decibel on the A scale |
| DC | direct current |
| DCTL | Double Circuit Transmission Line |
| DEIR | Draft Environmental Impact Report |
| DEIS | Draft Environmental Impact Statement |
| DFG | California Department of Fish and Game |
| DHS | California Department of Health Services |
| DISCO | Distribution Company |
| DOC | Determination of Compliance |
| DOE | U.S. Department of Energy |
| DSM | demand side management |
| DTC | Desert Tortoise Council |
| DWR | California Department of Water Resources |
| | E |
| EDF | Environmental Defense Fund |
| Edison | Southern California Edison Company |
| EDR | Energy Development Report |
| EFS&EPD | Energy Facilities Siting and Environmental Protection Division |
| EIA | U.S. Energy Information Agency |
| EIR | Environmental Impact Report |
| EIS | Environmental Impact Statement |
| ELFIN | Electric Utility Financial and Production Simulation Model |
| EMF | electric and magnetic fields |
| EOR | East of River (Colorado River) |
| EPA | U.S. Environmental Protection Agency |
| EPRI | Electric Power Research Institute |
| ER | Electricity Report |
| ERC | emission reduction credit {offset} |
| ESA | Endangered Species Act (Federal)<br>Environmental Site Assessment |
| ETSR | Energy Technologies Status Report |
| | F |
| FAA | Federal Aviation Administration |
| FBE | Functional Basis Earthquake |
| FCAA | Federal Clean Air Act |
| FCC | Federal Communications Commission |
| FEIR | Final Environmental Impact Report |
| FIP | Federal Implementation Plan |
| FONSI | Finding of No-Significant Impact |
| FERC | Federal Energy Regulatory Commission |
| FSA | Final Staff Assessment<br>G |

| | |
|---|---|
| GEP | good engineering practice |
| GIS | gas insulated switchgear<br>geographic information system |
| gpd | gallons per day |
| gpm | gallons per minute |
| GW | gigawatt |
| GWh | gigawatt hour |
| | H |
| $H_2S$ | hydrogen sulfide |
| HCP | habitat conservation plan |
| HHV | higher heating value |
| HRA | Health Risk Assessment |
| HRSG | heat recovery steam generator |
| HV | high voltage |
| HVAC | heating, ventilating and air conditioning |
| | I |
| IAR | Issues and Alternatives Report |
| IEA | International Energy Agency |
| IEEE | Institute of Electrical & Electronics Engineers |
| IID | Imperial Irrigation District |
| IIR | Issues Identification Report |
| IOU | Investor-Owned Utility |
| IS | Initial Study |
| ISO | Independent System Operator |
| | J |
| JES | Joint Environmental Statement |
| | K |
| KCAPCD | Kern County Air Pollution Control District |
| KCM | thousand circular mils (also KCmil) (electricity conductor) |
| KGRA | known geothermal resource area |
| km | kilometer |
| KOP | key observation point |
| KRCC | Kern River Cogeneration Company |
| kV | kilovolt |
| KVAR | kilovolt-ampere reactive |
| kW | kilowatt |
| kWe | kilowatt, electric |
| kWh | kilowatt hour |
| kWp | peak kilowatt |
| | L |
| LADWP | Los Angeles Department of Water and Power |
| LAER | Lowest Achievable Emission Rate |
| lbs | pounds |
| lbs/hr | pounds per hour |
| lbs/MMBtu | pounds per million British thermal units |
| LCAQMD | Lake County Air Quality Management District |
| LMUD | Lassen Municipal Utility District |
| LORS | laws, ordinances, regulations and standards |
| | M |
| m (M) | meter, million, mega, milli or thousand |
| MBUAPCD | Monterey Bay Unified Air Pollution Control District |
| MCE | maximum credible earthquake |
| MCF | thousand cubic feet |
| MCL | Maximum Containment Level |
| MCM | thousand circular mil (electricity conductor) |
| $\mu g/m^3$ | micro grams ($10^{-6}$ grams) per cubic meter |

| | |
|---|---|
| MEID | Merced Irrigation District |
| MG | milli gauss |
| mgd | million gallons per day |
| MID | Modesto Irrigation District |
| MOU | Memorandum of Understanding |
| MPE | maximum probable earthquake |
| m/s | meters per second |
| MS | Mail Station |
| MVAR | megavolt-ampere reactive |
| MW | megawatt (million watts) |
| MWA | Mojave Water Agency |
| MWD | Metropolitan Water District |
| MWh | megawatt hour |
| MWp | peak megawatt |
| | N |
| N-1 | one transmission circuit out |
| N-2 | two transmission circuits out |
| NAAQS | National Ambient Air Quality Standards |
| NCPA | Northern California Power Agency |
| NEPA | National Energy Policy Act<br>National Environmental Policy Act |
| NERC | National Electric Reliability Council |
| NESHAPS | National Emission Standards for Hazardous Air Pollutants |
| NMHC | nonmethane hydrocarbons |
| NO | nitrogen oxide |
| NOI | Notice of Intention |
| NOL | North of Lugo |
| $NO_x$ | nitrogen oxides |
| $NO_2$ | nitrogen dioxide |
| NOP | Notice of Preparation (of EIR) |
| NOV | Notice of Violation |
| NRDC | Natural Resources Defense Council |
| NSCAPCD | Northern Sonoma County Air Pollution Control District |
| NSPS | New Source Performance Standards |
| NSR | New Source Review |
| | O |
| $O_3$ | Ozone |
| OASIS | Open Access Same-Time Information System |
| OCB | oil circuit breaker |
| OCSG | Operating Capability Study Group |
| O&M | operation and maintenance |
| OSHA | Occupational Safety and Health Administration (or Act) |
| | P |
| PG&E | Pacific Gas & Electric Company |
| PDCI | Pacific DC Intertie |
| PHC(S) | Prehearing Conference (Statement) |
| PIFUA | Federal Powerplant & Industrial Fuel Use Act of 1978 |
| PM | Project Manager<br>particulate matter |
| $PM_{10}$ | particulate matter 10 microns and smaller in diameter |
| $PM_{2.5}$ | particulate matter 2.5 microns and smaller in diameter |
| ppb | parts per billion |
| ppm | parts per million |
| ppmvd | parts per million by volume, dry |
| ppt | parts per thousand |
| PRC | California Public Resources Code |

| | |
|---|---|
| PSD | Prevention of Significant Deterioration |
| PSRC | Plumas Sierra Rural Electric Cooperative |
| PT | potential transformer |
| PTO | Permit to Operate |
| PU | per unit |
| PURPA | Federal Public Utilities Regulatory Policy Act of 1978 |
| PV | Palo Verde<br>photovoltaic |
| PX | Power Exchange |
| | Q |
| QA/QC | Quality Assurance/Quality Control |
| QF | Qualifying Facility |
| | R |
| RACT | Reasonably Available Control Technology |
| RDF | refuse derived fuel |
| ROC | Report of Conversation<br>reactive organic compounds |
| ROG | reactive organic gas |
| ROW | right of way |
| RWQCB | Regional Water Quality Control Board |
| | S |
| SACOG | Sacramento Area Council of Governments |
| SANBAG | San Bernardino Association of Governments |
| SANDAG | San Diego Association of Governments |
| SANDER | San Diego Energy Recovery Project |
| SB | Senate Bill |
| SCAB | South Coast Air Basin |
| SEGS | Solar Electric Generating Station |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SCE | Southern California Edison Company |
| SCFM | standard cubic feet per minute |
| SCH | State Clearing House |
| SCIT | Southern California Import Transmission |
| SCR | Selective Catalytic Reduction |
| SCTL | single circuit transmission line |
| SDCAPCD | San Diego County Air Pollution Control District |
| SDG&E | San Diego Gas & Electric Company |
| SEPCO | Sacramento Ethanol and Power Cogeneration Project |
| SIC | Standard industrial classification |
| SIP | State Implementation Plan |
| SJVAB | San Joaquin Valley Air Basin |
| SJVAQMD | San Joaquin Valley Air Quality Management District |
| SMAQMD | Sacramento Metropolitan Air Quality Management District |
| SMUD | Sacramento Municipal Utility District |
| SMUDGEO | SMUD Geothermal |
| SNCR | Selective Noncatalytic Reduction |
| SNG | Synthetic Natural Gas |
| $SO_2$ | sulfur dioxide |
| $SO_x$ | sulfur oxides |
| $SO_4$ | sulfates |
| SoCAL | Southern California Gas Company |
| SONGS | San Onofre Nuclear Generating Station |
| SPP | Sierra Pacific Power |
| STIG | steam injected gas turbine |

| | |
|---|---|
| SWP | State Water Project |
| SWRCB | State Water Resources Control Board |
| | T |
| TAC | Toxic Air Contaminant |
| TBtu | trillion Btu |
| TCF | trillion cubic feet |
| TCM | transportation control measure |
| TDS | total dissolved solids |
| TE | transmission engineering |
| TEOR | Thermally Enhanced Oil Recovery |
| TID | Turlock Irrigation District |
| TL | transmission line or lines |
| T-Line | transmission line |
| TOG | total organic gases |
| TPD | tons per day |
| TPY | tons per year |
| TS&N | Transmission Safety and Nuisance |
| TSE | Transmission System Engineering |
| TSIN | Transmission Services Information Network |
| TSP | total suspended particulate matter |
| | U |
| UBC | Uniform Building Code |
| UDC | Utility Displacement Credits |
| UDF | Utility Displacement Factor |
| UEG | Utility Electric Generator |
| USC(A) | United States Code (Annotated) |
| USCOE | U.S. Corps of Engineers |
| USEPA | U.S. Environmental Protection Agency |
| USFS | U.S. Forest Service |
| USFWS | U.S. Fish and Wildlife Service |
| USGS | U.S. Geological Survey |
| | V |
| VCAPCD | Ventura County Air Pollution Control District |
| VOC | volatile organic compounds |
| | W |
| W | Watt |
| WAA | Warren-Alquist Act |
| WEPEX | Western Energy Power Exchange |
| WICF | Western Interconnection Forum |
| WIEB | Western Interstate Energy Board |
| WOR | West of River (Colorado River) |
| WRTA | Western Region Transmission Association |
| WSCC | Western System Coordination Council |
| WSPP | Western System Power Pool |