



BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
 COMMISSION OF THE STATE OF CALIFORNIA
 1516 NINTH STREET, SACRAMENTO, CA 95814
 1-800-822-6228 – WWW.ENERGY.CA.GOV

APPLICATION FOR CERTIFICATION
 FOR THE *GWF TRACY COMBINED CYCLE
 POWER PLANT PROJECT*

Docket No. 08-AFC-7

DOCKET	
08-AFC-7	
DATE	FEB 16 2010
RECD.	FEB 16 2010

**NOTICE OF AVAILABILITY OF THE PRESIDING MEMBER’S PROPOSED DECISION
 AND
 NOTICE OF COMMISSION HEARING**

I. NOTICE OF AVAILABILITY

On February 17, 2010, the Committee issued the Presiding Member’s Proposed Decision (PMPD) for the ***GWF Tracy Combined Cycle Power Plant Project***. Copies of the PMPD have been sent to the Proof of Service list. The PMPD may be viewed on the Commission’s internet website at: [www.energy.ca.gov/sitingcases/tracyexpansion].

For a printed copy, call the Publications Unit at 916-654-5200, and ask for Publication No. CEC 800-2010-002- PMPD. The 30-day public comment period on the PMPD ends on March 17, 2010.

The parties in the case shall file and serve their initial written comments on the PMPD to the Proof of Service list and via e-mail **no later than 3 p.m. on March 17, 2010**.

Public Comments

Members of the public and governmental agency representatives are encouraged to submit their written comments by the close of the 30-day review period on March 17, 2010, by mailing an original document to the Commission Docket Unit (1516 Ninth Street, MS-4, Sacramento, CA 95814) and by e-mail to: docket@energy.state.ca.us. Identify all comments with “**Docket No. 08-AFC-7.**”

II. NOTICE OF COMMISSION HEARING

PLEASE TAKE NOTICE the full Commission will consider the PMPD, released February 17, 2010, and Errata, if applicable, for possible adoption as follows:

**WEDNESDAY, March 24, 2010
Beginning at 10 a.m.**

**California Energy Commission
Hearing Room A
1516 Ninth Street
Sacramento, California 95814**

The purpose of this hearing is to consider whether the Energy Commission should adopt, modify, or reject the PMPD. Parties and members of the public may participate and offer oral and written comments on the PMPD. Identify all comments with “**Docket No. 08-AFC-7.**”

Public Participation

The Energy Commission’s Public Adviser’s Office is available to assist the public in participating in the application review process. For information on how to participate, please contact the Public Adviser’s Office at (916) 654-4489 or (800) 822-6228 or by e-mail: **[publicadviser@energy.state.ca.us]**. If you have a disability and need assistance to participate in this event, contact Lourdes Quiroz at (916) 654-5146 or e-mail: **[lquiroz@energy.state.ca.us]**.

Questions of a legal or procedural nature should be directed to Raoul Renaud, the Hearing Officer, at (916) 651-2020 or e-mail: **[rrenaud@energy.state.ca.us]**.

Technical questions concerning the project should be addressed to Alan Solomon, the Staff Project Manager, at (916) 653-8236 or e-mail: **[asolomon@energy.state.ca.us]**.

Media inquiries should be directed to the Office of Media and Public Communications at (916) 654-4989 or e-mail at: **[mediaoffice@energy.state.ca.us]**.

Information concerning the status of the Project, as well as notices and other relevant documents, may be viewed on the Energy Commission's website at: **[www.energy.ca.gov/sitingcases/tracyexpansion]**.

Dated February 17, 2010



KAREN DOUGLAS
Chairman and Presiding Member
GWF Tracy AFC Committee

Mailed to Lists: POS, 7312, 7313, 7314, 7315

**CALIFORNIA
ENERGY
COMMISSION**

GWF TRACY COMBINED CYCLE POWER PLANT PROJECT

**Application For Certification (08-AFC-07)
San Joaquin County**

**PRESIDING MEMBER'S
PROPOSED DECISION**



**February 2010
(08-AFC-07)
CEC-800-2010-002-PMPD**



**GWF TRACY
COMBINED CYCLE
POWER PLANT PROJECT**

Application For Certification (08-AFC-07)
San Joaquin County



**CALIFORNIA
ENERGY
COMMISSION**

**PRESIDING MEMBER'S
PROPOSED DECISION**

February 2010
(08-AFC-07)
CEC-800-2010-002-PMPD



**CALIFORNIA ENERGY
COMMISSION**

1516 9th Street
Sacramento, CA 95814

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



KAREN DOUGLAS
Presiding Committee Member

RAOUL RENAUD
Hearing Officer



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV**

I hereby submit the Presiding Member's Proposed Decision for the ***GWF TRACY POWER PLANT PROJECT*** (Docket Number 08-AFC-7). I have prepared this document pursuant to the requirements set forth in the Commission's regulations. (20 Cal. Code Regs., §§ 1749-1752.5.)

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

Dated: February 17, 2010, at Sacramento, California.

A handwritten signature in black ink, appearing to read "K. Douglas", written over a horizontal line.

KAREN DOUGLAS
Chairman and Presiding Committee Member
GWF Tracy AFC Committee

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<i>APPENDIX C:</i>	<i>PROOF OF SERVICE LIST</i>

INTRODUCTION

A. SUMMARY OF THE DECISION

This Decision contains the Commission's rationale in determining that the GWF Tracy Combined-Cycle Power Plant (GWF Tracy) will, as mitigated, have no significant impacts on the environment and complies with all applicable laws, ordinances, regulations, and standards (LORS). The project may therefore be licensed. This Decision is based exclusively upon the record established during this certification proceeding and summarized in this document. We have independently evaluated the evidence, provided references to the record¹ supporting our findings and conclusions, and specified the measures required to ensure that GWF Tracy is designed, constructed, and operated in the manner necessary to protect public health and safety, promote the general welfare, and preserve environmental quality.

On June 30, 2008, GWF Energy, LLC, submitted an Application for Certification (AFC) to the California Energy Commission to modify the existing Tracy Peaker Plant (TPP), a nominal 169-megawatt (MW) simple-cycle power plant, by converting the facility into a combined cycle power plant with a new nominal generating capacity of 314-MW. The Energy Commission licensed the existing TPP facility on July 17, 2002; it began commercial operation on June 1, 2003. The proposed project would occupy a 16.38 acre, fenced site within the existing GWF-owned 40 acre parcel in an unincorporated portion of San Joaquin County immediately southwest of Tracy, California, and approximately 20 miles southwest of Stockton, California. (Ex. 200, p. 3-1.) The property 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 power plant area is accessed via an existing 3,300-foot, asphalt-paved service road southward from W. Schulte Road.

The existing TPP is serviced by a Pacific Gas and Electric Company (PG&E) natural gas pipeline which connects to the TPP. No additional pressurization or other modifications to the natural gas pipeline would be required. The Byron-Bethany Irrigation District (BBID) would supply GWF Tracy with water from the

¹ The Reporter's Transcript of the evidentiary hearings is cited as "date of hearing RT page ____." For example: 11/30/09 RT 77. The exhibits included in the evidentiary record are cited as "Ex. number." A list of all exhibits is contained in **Appendix B** of this Decision.

Delta-Mendota Canal using the existing pipeline developed for the original Tracy Peaker Project. Small amounts of industrial wastewater from GWF Tracy would be stored on site and periodically transported from the plant via licensed haulers for offsite recycle or disposal. All sanitary wastewater would be routed on site to an existing septic tank/leach field.

GWF proposes to modify the existing TPP by installing a new steam turbine generator (STG) which would be connected to an individual, dedicated, three-phase generation step-up transformer that would be connected to the existing 115-kV on-site Tracy Switchyard bus via an overhead transmission line. To connect the new equipment, two short segments of the PG&E's 115 kV transmission system would require reconductoring near the intersection of Interstate 5 (I-5) and I-205, near the PG&E Kasson Substation

The Energy Commission has exclusive jurisdiction to license this project and is considering the proposal under a twelve-month review process established by Public Resources Code, section 25540.6.

The Applicant indicates that it would take 22 months to complete the project with construction expected to cost approximately \$232 million. Commercial operation would begin in the second quarter of 2012, if approved by the Energy Commission. Applicant proposes to begin project construction during the fall of 2010.

Personnel requirements would be minimal during the mobilization and site grading period and during the startup and testing period. There would be an average and peak workforce of approximately 171 and 398, respectively, of construction craft people, supervisory, support, and construction management personnel on site during construction. Construction personnel requirements would peak in month 17 of the construction period. The project would have a small-sized workforce during operations; an estimated workforce of 17 full time equivalent personnel would be needed to staff the facility 24 hours per day/seven days per week. (Ex. 200, p. 3.4.)

No significant adverse socioeconomics impacts would occur as result of the construction or operation of GWF Tracy. The proposed project would benefit the study area in terms of an increase in local expenditures and payrolls during construction and operation of the facility and would have a positive effect on the local and regional economy. (Ex. 200, p. 4.8-13.)

B. SITE CERTIFICATION PROCESS

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

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

The Commission's process allows for and encourages public participation so that members of the public may become involved either informally or on a formal level as intervenor parties who have the opportunity to present evidence and cross-examine witnesses. Public participation is encouraged at every stage of the process.

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

The initial portion of the certification process is weighted heavily toward assuring public awareness of the proposed Project and obtaining necessary technical information. During this time, the Commission staff sponsors public workshops

at which Intervenors, agency representatives, and members of the public meet with Staff and Applicant to discuss, clarify, and negotiate pertinent issues. Staff publishes its initial technical evaluation of the Project in its Preliminary Staff Assessment (PSA), which is made available for a 30-day public comment period. Staff's responses to public comment on the PSA and its complete analyses and recommendations are published in the Final Staff Assessment (FSA, also Exhibit 200).

Following this, the Committee conducts a Prehearing Conference to assess the adequacy of available information, identify issues, and determine the positions of the parties. Based on information presented at this event, the Committee issues a Hearing Order to schedule formal evidentiary hearings. At the evidentiary hearings, all formal parties, including intervenors, may present sworn testimony, which is subject to cross-examination by other parties and questioning by the Committee. Members of the public may offer oral or written comments at these hearings. Evidence submitted at the hearings provides the basis for the Committee's analysis and recommendations to the full Commission.

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

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

C. PROCEDURAL HISTORY

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

On June 30, 2008, GWF Energy, LLC, submitted an Application for Certification (AFC) to the California Energy Commission to modify the existing Tracy Peaker Plant (TPP), a nominal 169-megawatt (MW) simple-cycle power plant, by converting the facility into a combined cycle power plant with a new nominal generating capacity of 314-MW. The Energy Commission licensed the existing TPP facility on July 17, 2002; it began commercial operation on June 1, 2003.

On September 10, 2008, the Energy Commission deemed the AFC data adequate (sufficient data to proceed) and assigned a Committee of two Commissioners to conduct proceedings.

The formal parties included the Applicant, the Energy Commission staff (Staff), Howard Seligman, Seligman & Willett, Inc., and Mr. Robert Sarvey.

On September 26, 2008, the Committee issued a Notice of "Informational Hearing and Site Visit". The Notice was mailed to local agencies and members of the community who were known to be interested in the project, including the owners of land adjacent to or in the vicinity of the project. . In addition to property owners and persons on the general project mail-out list, notification was provided to local, state and federal public interest and regulatory organizations with an expressed or anticipated interest in this project. Also, elected and certain appointed officials of San Joaquin County were similarly notified of the hearing and site visit.

The Public Adviser's Office of the Energy Commission (PAO) also identified and similarly notified local officials with jurisdiction in the project area. The PAO placed a notice in *The Tracy Press* for October 18, 2008. Additionally a notice was placed in *The Bilingual Weekly*, for October 15, 2008, a Spanish-language weekly publication.

On Thursday, October 23, 2008, the Committee conducted a Site Visit to tour the proposed GWF Tracy Project site and then convened a public Informational

Hearing at Tracy City Hall. At that event, the Committee, the parties, interested governmental agencies, and other public participants discussed issues related to development of the GWF Tracy project, described the Commission's review process, and explained opportunities for public participation. On October 31, 2008, the Committee issued the Scheduling Order for the proceedings.

Staff held a Data Response and Issue Resolution Workshop for the GWF Tracy Combined Cycle Power Plant Project on December 11, 2008 in Tracy, California. The purpose of the workshop was to discuss GWF Energy, LLC's responses to the Energy Commission's data requests for the following technical areas: air quality, biological resources, cultural resources, geology and paleontology, land use, and soil and water resources, and to facilitate the resolution of related issues and concerns. All interested agencies and members of the public were invited to participate.

The Preliminary Staff Assessment (PSA) was published on June 9, 2009. The Staff provided notification by letter and held a PSA Workshop on June 23, 2009 in Tracy. The Final Staff Assessment (FSA) was released on October 30, 2009.

On November 2, 2009, the Committee issued a Notice of Prehearing Conference and Evidentiary Hearing. The prehearing conference was held on November 17, 2009, and the evidentiary hearing was held on November 30, 2009, both at the Energy Commission headquarters in Sacramento.

The Committee published this PMPD on February 17, 2010. The 30-day comment period on the PMPD will expire on March 19, 2010. Written comments should be submitted by March 19, 2010. A Notice of Availability was published in *The Tracy Press*, a general circulation publication.

D. PUBLIC COMMENT

The record contains public comments from concerned individuals and organizations. Throughout these proceedings, as reflected in the transcribed record, the Committee provided an opportunity for public comment at each Committee-sponsored conference and hearing. Ms. Annette Tusio Elissagary was the only member of the public commenting at the evidentiary hearing. (11/30/09 RT 10-18.)

I. PROJECT DESCRIPTION AND PURPOSE

GWF Energy LLC (GWF) operates the Tracy Peaker Plant (TPP) located near the City of Tracy. On July 18, 2008, GWF filed an Application for Certification (AFC) to convert the TPP to a combined cycle plant and to increase its generation capacity from 169 megawatts (MW) to 314 MW.

The site and laydown for the conversion project (GWF Tracy) consist of 16.38 acres within a 40 acre parcel in an unincorporated portion of San Joaquin County. The site is in an industrial and agricultural area which includes the existing TPP and which is properly zoned for electrical generating facilities. The property is bounded by the Delta-Mendota Canal to the southwest, agricultural property to the south and the east, and the Union Pacific Railroad to the north. Primary access to the project area is by an existing paved service road running southward from W. Schulte Road. (Ex. 200, pp. 3-1, 3-3.) GWF will construct, own, and operate the combined cycle power plant. (Ex. 1, § 1.4, p. 1-4.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The evidence presented was uncontested. (11/30/2009 RT 6-9; Exs. 1; 2; 4; 23; 24; 25; 70; 95; 200, § 3; 201.)

GWF Tracy is expected to operate up to 8,000 hours per year. This includes 4,900 hours of operation with no supplemental use of natural gas (duct-firing) and 3,100 hours of operation with duct-firing. (Ex. 1, § 1.3, p. 1-4.) Project construction will take about 22 months and cost approximately \$232 million. GWF intends to begin construction during the fall of 2010, with commercial operation anticipated by June 2012. There will be an average daily workforce of 171, with a peak workforce of 398 during the seventeenth month of construction. A workforce of 17 full-time personnel will be required during operation. (Exs. 1, § 1.3; 200, p. 3-4; 201.)

1. Project Objectives

The evidence of record identifies the project objectives as:

- Meeting the expanding need for efficient and reliable electrical generating resources located in the load center of the San Joaquin County and City of Tracy region;

- Accomplishing “brownfield” redevelopment and expanding an existing power plant, for a net increase in electrical generation capacity of 145 MW, to support electrical system and local resource supply requirements in San Joaquin County and the City of Tracy;
- Providing additional electrical capacity in the San Joaquin County and City of Tracy area while reducing emissions of greenhouse gases through more efficient electrical generation; and
- Utilizing the existing TPP infrastructure to reduce environmental impacts and costs. (Ex. 1, § 1.2, p. 1-3.)

2. Project Features

The major activities required for the GWF Tracy project include:

- Adding a new equipment storage area outside the current TPP footprint, but within an area that was previously disturbed during construction of the TPP.
- Temporarily disturbing approximately 12.3 acres for construction laydown and parking on a previously disturbed portion of the 40-acre parcel that is outside of the existing plant fence line.
- Permanent disturbance of approximately 3.28 acres associated with the relocation of the stormwater retention basin outside the current TPP fenceline.
- Demolishing and removing the TPP’s two existing oxidation catalyst and selective catalytic reduction (SCR) systems, including the existing 100-foot stacks.
- Demolishing the existing stormwater evaporating/percolation basin to accommodate the new air-cooled (dry) condenser (ACC) unit on the existing site.
- Adding two new heat recovery steam generators (HRSG), each receiving the exhaust from one of the existing General Electric Frame 7EA combustion turbine generators (CTGs), and equipped with 324 MMBtu/hr, HHV capacity, natural gas-fired duct burners.
- Adding a new higher efficiency oxidation catalyst system within each HRSG to control carbon monoxide (CO) and volatile organic compounds (VOC) emissions to outlet concentrations of less than 2 parts per million volume dry (ppmvd) at 15 percent oxygen (O₂) and less than 2 ppmvd at 15 percent O₂, respectively.

- Adding a new higher-efficiency selective catalytic reduction (SCR) system within each HRSG and reusing the existing aqueous ammonia storage system to control oxides of nitrogen (NO_x) emissions to less than 2 ppmvd at 15 percent O₂.
- Modifying the wastewater treatment system to optimize water supply requirements and minimize off-site water disposal.
- Adding two new 150-foot-tall, 17-foot-diameter exhaust stacks to replace the existing exhaust stacks; each will be equipped with existing continuous emissions monitoring systems for CO, NO_x, and O₂.
- Adding a new 85 MMBtu/hr capacity natural gas-fired auxiliary boiler equipped with ultra low NO_x burner(s) and a 50-foot-tall, 48-inch-diameter stack.
- Adding a new nominal 145 MW (net output) condensing steam turbine generator (STG).
- Adding a new 114-foot-tall by 234-foot-long by 215-foot-wide ACC system for system heat injection.
- An increase in annual water consumption of approximately 25.5 acre-feet per year for HRSG feedwater makeup and lube oil cooler.
- Adding a new 400,000 gallon fire/service water storage tank, modifying the existing 250,000-gallon firewater tank to 300,000 gallons, and adding a 125,000-gallon demineralized water tank.
- Adding an on-site 115-kV switchyard to provide an additional circuit breaker and transformer for the STG power output.
- Adding an on-site 115-kV overhead transmission line from the STG step up transformer to the existing 115-kV switchyard.

(Exs. 2, § 2.1, pp. 2-1 to 2-2; 200 pp. 3.1 to 3.2.)

3. Associated Facilities

GWF Tracy will use TPP's existing infrastructure, including the natural gas pipeline, water supply pipeline, and electric transmission line. (Ex. 200, p. 3-1.) The project will tap the existing gas pipeline to obtain natural gas for the two HRSG duct burner skids and the auxiliary boiler. The Byron-Bethany Irrigation District will supply water from the Delta-Mendota Canal using TPP's existing pipeline. GWF Tracy's average annual water consumption will be about 54.4 acre feet per year (AFY); this is an increase of 25.5 AFY over the current annual usage. Small amounts of wastewater will be stored on-site and then removed by licensed transporters. Storm runoff will either be similarly transported off-site or

directed to an on-site evaporation/percolation basin, depending upon whether or not it has been contaminated. (Ex. 200, p. 3-3.)

The Tracy Project transmission lines will traverse a sparsely populated area with no nearby residences. Transmission facilities will include the following:

- A new, on-site 115-kV, overhead transmission line connecting Tracy's STG to the existing on-site TPP Switchyard;
- An new on-site 115-kV switchyard;
- Segment upgrades of 0.7 miles and of 1.6 miles of PG&E's existing transmission lines at locations interconnecting with the Kasson Substation, downstream from the initial on-site connection point; and
- Expanding the existing PG&E Schulte Switchyard to allow looping in the existing Tesla-Manteca transmission line.

Upgrading the segments of the existing line will require only replacing the existing conductors with larger-capacity conductors to accommodate the Tracy Project's added power; the existing support structures will continue to be used. Two 45-foot tall, 5.5-foot diameter tubular steel support structures will be added for looping the existing Tesla-Manteca transmission line into the project site. (Exs. 2, § 2.1, p. 2-2; 200 p. 4.11-4.)

4. Facility Closure

The GWF Tracy Project will be designed for a 30-year operating life but, with good maintenance practices, could operate longer. Nevertheless, at some point in the future, the project will cease operation and shut down. It will then be necessary to ensure that the closure occurs in a manner that protects public health and safety and is environmentally acceptable.

One year prior to planned closure, the project owner will submit to the Energy Commission a specific decommissioning plan which includes:

- Identification, discussion, and scheduling of the proposed decommissioning activities which cover the power plant, related transmission lines, and other pertinent facilities constructed as part of the project.
- Description of measures proposed to ensure the safe shutdown and decommissioning of all equipment, including the draining and cleaning of all tankage and the removal of any hazardous waste.

- Identification of all applicable LORS in effect at the time, and an explanation of how the specific decommissioning will be accomplished in accordance with the LORS.
- Notification of state and local agencies, including the Energy Commission.

This matter is covered fully in the **Compliance and Closure** section of this Decision.

FINDINGS OF FACT

Based upon the evidentiary record, we find as follows:

1. GWF Energy LLC will own and operate the project.
2. The GWF Tracy project involves modifying the existing Tracy Peaker Project. This modification will result in an increase of 145 MW in generation capacity and conversion into combined cycle operation. The project site and construction laydown area will occupy nearly 16.5 acres of land.
3. The project will utilize the Tracy Peaker Project's existing transmission, gas supply, and water supply lines. The project also involves the construction of a new on-site overhead transmission line and the reconductoring of a total of about 2.3 miles of PG&E's existing 115-kV transmission system.
4. The project and its objectives are adequately described by the relevant documents contained in the record.

CONCLUSION OF LAW

1. We therefore conclude that the GWF Tracy Combined Cycle Project is described at a level of detail sufficient to allow review in compliance with the provisions of both the Warren- Alquist Act and the California Environmental Quality Act.

II. PROJECT ALTERNATIVES

The Commission is required to examine ". . . the feasibility of available site and facility alternatives . . . which substantially lessen the significant adverse impacts of the proposal on the environment." (20 Cal. Code Regs., § 1765; 14 Cal. Code Regs., § 15252.) This inquiry is consistent with the California Environmental Quality Act (CEQA) Guidelines.

The range of alternatives we are required to consider is governed by a rule of reason. This means that our consideration of alternatives is limited to those that would avoid or substantially lessen any of the project's significant effects while attaining most of the basic objectives of the project. We also evaluated the "no project" alternative. [See, e.g., 14 Cal. Code Regs., § 15126.6.]

Under both the traditional EIR process and our "functionally equivalent" process, the key issue is whether the selection and discussion of alternatives fosters informed decision making and informed public participation. (*Laurel Heights Improvement Association of San Francisco v. The Regents of the University of California* (1988) 47 Cal.3d 376.) To put the alternatives analysis into perspective, it is important to recognize that alternatives are considered at two stages in our process and that differing factors come into play at each stage. Alternatives are identified and refined beginning with the AFC filing and continuing through the Preliminary and Final Staff Assessments, and then examined once again during the evidentiary hearing stage. When selecting alternatives as part of its project analysis, Staff's task is to examine the objectives of the project and to identify a range of alternatives that will satisfy most of the basic project objectives while reducing or avoiding any significant impacts. The focus is on whether an alternative can, as a practical matter, be implemented. Alternatives that are not at least potentially feasible² are excluded at this stage because there is no point in studying those that cannot succeed.

At the project approval stage, the decision-makers evaluate the relative advantages and disadvantages of the project and its impacts, as well as any alternatives deemed to be potentially feasible, as developed through the foregoing process. The decision-makers can approve the project as fully mitigated, approve the project even with significant unmitigated impacts if there are overriding considerations, or deny the project. The Commission makes this decision after considering the entire range of issues and policies relevant to its

² "Feasibility" takes into account environmental, economic, legal, social, technological, and other considerations. (Pub. Res. Code § 21061.1; 14 Cal. Code Regs., § 15364.)

action on the project. CEQA does not mandate the choice of the environmentally "best" feasible project if, through the imposition of appropriate mitigation measures, a project's impacts can be reduced to an acceptable level. (*Laurel Hills Homeowners Association v. City Council of City of Los Angeles* (1978) 83 Cal.App.3d 515.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

GWF proposes to modify the existing TPP (01-AFC-16), a nominal 169-megawatt (MW) simple-cycle power plant by converting the facility into a combined-cycle power plant with a new nominal generating capacity of 314 MW. The proposed project would occupy the same site as the existing TPP site, an existing brown-field site, within an industrial and agricultural area which allows electrical generation (County Zoning Designation G-40).

The proposed project would include the addition of two heat recovery steam generators, a steam turbine generator, an auxiliary boiler, an air-cooled dry condenser unit, and a 115-kilovolt (kV) electrical switchyard. The proposed modification would include physically connecting the heat recovery steam generator to the existing TPP power block.

In addition, the proposed project would use existing TPP infrastructure, including the natural gas pipeline, water supply pipeline, and electric transmission line. (Ex. 200, p. 6-2.)

1. Project Objectives

Applicant cited four basic objectives for GWF Tracy in evidence offered at the Evidentiary Hearings:

- Meet the expanding need for efficient and reliable electrical generating resources located in the load center of the San Joaquin County and City of Tracy region;
- Accomplish "brownfield" redevelopment and expansion of an existing power plant for a net increase in electrical generation to support electrical system and local resource supply requirements in San Joaquin County and the City of Tracy;
- Provide additional electrical capacity in the San Joaquin County and City of Tracy area while reducing emissions of greenhouse gases through more efficient electrical generation; and

- Convert an existing simple cycle facility to a combined cycle facility using existing TPP infrastructure to reduce environmental impacts and costs. (11-30-09 RT 8; Ex. 22, pp. 6-1 to 6.2.)

2. Site Alternatives Analysis

CEQA Guidelines, section 15126.6 (f)(2)(A) states: “The key question and first step in analysis is whether any of the significant effects of the project would be avoided or substantially lessened by putting the project in another location. Only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.”

For the original TPP, three sites were considered and rejected during the original siting process. Use of an alternative site for the proposed GWF Tracy Project would require the construction of an entirely new facility at the new location. This would have potential impacts to air quality, biological resources, public health, land use, and water resources, all of which would require mitigation likely greater than at the proposed site. (Ex. 200, p. 6-3.)

The evidence establishes that using any site for GWF Tracy other than Applicant’s proposed site would create impacts that would be avoided by using the proposed site. These impacts include conversion of agricultural land substantially in excess of the 3.28 acres that would be converted at the proposed site, the construction impacts resulting from dismantling and moving the existing turbines to the new site, and the potential biological and cultural impacts of clearing a new site. (Ex. 22, p. 6-4.)

Consistent with Section 25540.6(b) of the Warren-Alquist Act, we find that GWF Tracy’s proposed re-use of the existing power plant site, a site we approved for the TPP, allows us to choose not to analyze alternative sites. We find that it is reasonable not to analyze alternative sites because GWF Tracy has a strong relationship to the existing site. Section 15126.6(f)(2)(B) of the CEQA Guidelines states that only alternative sites that would avoid or substantially lessen any of the significant effects of the project need to be considered, lending further support to this finding because the evidence establishes that there are no such alternative sites.

3. Technology Alternatives/No Project Analysis

The evidence of record shows that both Applicant and Staff examined technological alternatives to GWF Tracy as well as the consequences of not constructing the proposed project. (Ex. 22, pp. 6-3 to 6-8; Ex. 200, pp. 6-4 to 6-7.)

California's electrical use continues to increase as a result of population growth and business expansion. The unrefuted evidence establishes that measures such as energy conservation and programs that increase energy efficiency, reduce electricity use, or shift electricity use away from peak hours of demand are not currently sufficient to satisfy the State's electrical needs. Both new generation and transmission facilities will likely be needed. (Ex. 200, p. 6-5.)

Alternative generation technologies were analyzed as possible alternatives to the project. Staff's alternatives analysis compared various alternative technologies with the proposed project, scaled to meet the project's objectives. Technologies examined were those principal electricity generation technologies which do not burn fossil fuels such as natural gas: geothermal, solar, wind, hydro, and biomass. There are no geothermal resources in the project vicinity, making this technology an infeasible alternative to the GWF Tracy Project. In addition to the lack of water sources for hydroelectric power in the project area, this power source can cause significant environmental impacts primarily due to the inundation of many acres of potentially valuable habitat and the interference with fish movements during their life cycle. It is unlikely that new hydropower facilities could be developed and permitted in California within the next several years. (Ex. 200, pp. 6-5 to 6-6.)

Both solar and wind generation have the advantages of an absence or reduction in air pollutant emissions and need for related controls, and visible plumes. In the case of biomass, however, emissions can be substantially greater. Solar and wind resources require large land areas in order to generate 145 MW of electricity. Specifically, central receiver solar thermal projects require approximately 5 acres per MW; 145 MW would require approximately 725 acres, or 45 times the amount of land area taken by the proposed GWF Tracy Project. Parabolic trough solar thermal technology requires similar acreage per MW. Clearly, the impacts of converting that quantity of land would far exceed the impacts, if any, of GWF Tracy's land use. In addition, Applicant cited the high cost of solar installations as a factor. (Ex. 22, p. 6-8; Ex. 200, p. 6-6.)

Photovoltaic (PV) arrays mounted on buildings generally require about 4 acres of rooftop per MW. To generate 145 MW using PV panels, about 580 acres of correctly-oriented rooftops would be needed. The evidence does not establish that such a quantity of available rooftop space exists in the project area. Furthermore, solar power is only available when the sun is shining. GWF Tracy has the objective of being able to provide power at any time. (*Id.*)

Wind generation generally requires about 4.5 acres per MW; about 652 acres would be needed to generate 145 MW. Although there is acreage, and specifically acreage that would meet some of the specific needs of these renewable resources, available in the project area, the land use impacts and loss of agricultural land could be a significant impact. The need for extensive acreage would also add to the complexities of local discretionary actions for land use modifications and these must also be considered.

While biomass facilities usually use wood chips or other sources from agricultural operations, several companies are developing technologies that would focus on “gasification combustion” to meet the low emission standards mandated by the state. However, traditional biomass plants are typically sized to generate approximately 20 MW, (such as the nearby Tracy Biomass plant which generates 21.5 MW) which is far less than the capacity of the proposed 145-MW of additional generating capacity. In order to generate 145 MW, seven 20 MW biomass facilities would be required. A traditional biomass facility would require significantly more land than needed for the expansion of GWF Tracy and several hundred acres could be required for the feedstock. If new biomass technology is developed in the near future, increased energy production could come from landfills in the area, limiting the need for power from fossil-fuel power plants. (Ex. 200, p. 6-6.)

Considering all of the factors discussed above, we find that geothermal, hydroelectric, solar, wind or biomass technologies are not feasible alternatives to the proposed project.

CEQA Guidelines and Energy Commission regulations require consideration of the “no project” alternative. The “no project” alternative under CEQA assumes that the project is not constructed. In the CEQA analysis, the “no project” alternative is compared to the proposed project and determined to be superior, equivalent, or inferior to it. The CEQA Guidelines state that “the purpose of describing and analyzing a No Project Alternative is to allow decision makers to compare the impacts of approving the proposed project with the impacts of not

approving the proposed project” [Cal. Code Regs., tit. §15126.6(i).] Toward that end, the “no project” analysis considers “existing conditions” and “what would be reasonably expected to occur in the foreseeable future if the project were not approved...” [§15126.6(e)(2).] The no-action alternative provides a baseline against which the effects of the proposed action may be compared. In short, the site-specific and direct impacts associated with the power plant would not occur at this site if the project does not go forward. (Ex. 22, p. 6-3; Ex. 200, p. 6-7.)

If the “no project” alternative were selected, the construction and operational impacts of proposed upgrades to the existing TPP would not occur. Without the proposed project, the existing TPP would continue to run as a 169 MW peaking power plant and the additional 145 MW of power in the project area would have to be met by another project. Given that we have concluded elsewhere in this Decision that GWF Tracy would help reduce GHG emissions by displacing older, higher-emitting plants and supporting renewable generation, we find that the “no project” alternative would not have this beneficial effect.

We therefore conclude that the “no project” alternative is not the preferred alternative.

FINDINGS OF FACT

Based upon the weight of the evidence of record before us, we make the following findings and reach the following conclusions:

1. The evidence of record contains an analysis of a reasonable range of alternatives to the proposed project, including alternative locations, alternative technologies, demand-side management, renewable energy sources, and the “no project” alternative.
2. The project objectives are properly described.
3. Renewable, non-fossil fuel technology alternatives such as biomass, geothermal, hydroelectric, solar or wind resources are either unavailable in the Tracy area or are not capable of meeting project objectives.
4. Renewable, non-fossil fuel alternatives would not reliably provide on-demand capability to respond to unexpected changes in regional demand.
5. Conservation and other demand-side management programs are currently not sufficient to satisfy California’s electricity needs.

6. GWF Tracy would provide local area generation and positive electrical system benefits.
7. The “no project” alternative would not provide local area generation and positive electrical system attributes.
8. The “no-project” alternative would not help reduce system GHG emissions.
9. No feasible alternative site exists which would satisfy most project objectives.

CONCLUSION OF LAW

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

III. COMPLIANCE AND CLOSURE

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

SUMMARY OF THE EVIDENCE

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

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

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

- Set forth the duties and responsibilities of the Compliance Project Manager (CPM), the Project Owner, delegate agencies, and others;
- Set forth the requirements for handling confidential records and maintaining the compliance record;
- Set forth procedures for settling disputes and making post-Certification changes;
- Set forth the requirements for periodic compliance reports and other administrative procedures necessary to verify the compliance status of all Commission imposed Conditions; and

- Set forth requirements for facility closure.

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

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

FINDINGS OF FACT

The evidence of record establishes:

1. Requirements contained in the Compliance Plan and in the specific Conditions of Certification are intended to be implemented in conjunction with one another.
2. We adopt the following Compliance Plan as part of this Decision.

CONCLUSIONS OF LAW

1. The compliance and monitoring provisions incorporated as a part of this Decision satisfy the requirements of Public Resources Code section 25532.
2. The Compliance Plan and the specific Conditions of Certification contained in this Decision assure that GWF Tracy will be designed, constructed, operated, and closed in conformity with applicable law.

GENERAL CONDITIONS OF CERTIFICATION

DEFINITIONS

The following terms and definitions are used to establish when Conditions of Certification are implemented.

PRE-CONSTRUCTION SITE MOBILIZATION

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

CONSTRUCTION

Onsite work to install permanent equipment or structures for any facility.

Ground Disturbance

Construction-related ground disturbance refers to activities that result in the removal of top soil or vegetation at the site beyond site mobilization needs, and for access roads and linear facilities.

Grading, Boring, and Trenching

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

Notwithstanding the definitions of ground disturbance, grading, boring and trenching above, construction does **not** include the following:

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

START OF COMMERCIAL OPERATION

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

COMPLIANCE PROJECT MANAGER RESPONSIBILITIES

The Compliance Project Manager (CPM) shall oversee the compliance monitoring and is responsible for:

1. Ensuring that the design, construction, operation, and closure of the project facilities are in compliance with the terms and Conditions of the Energy Commission Decision;
2. Resolving complaints;
3. Processing post-Certification changes to the Conditions of Certification, project description (petition to amend), and ownership or operational control (petition for change of ownership) (See instructions for filing petitions);
4. Documenting and tracking compliance filings; and
5. Ensuring that compliance files are maintained and accessible.

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

All project compliance submittals are submitted to the CPM for processing. Where a submittal required by a Condition of Certification requires CPM approval, the approval will involve all appropriate Energy Commission staff and management. All submittals must include searchable electronic versions (pdf or Word files).

PRE-CONSTRUCTION AND PRE-OPERATION COMPLIANCE MEETING

The CPM usually schedules pre-construction and pre-operation compliance meetings prior to the projected start-dates of construction, plant operation, or both. The purpose of these meetings is to assemble both the Energy Commission’s and project owner’s technical staff to review the status of all pre-construction or pre-operation requirements, contained in the Energy Commission’s Conditions of Certification. This is to confirm that all applicable Conditions of Certification have been met, or if they have not been met, to ensure that the proper action is taken. In addition, these meetings ensure, to the extent possible, that Energy Commission Conditions will not delay the construction and operation of the plant due to oversight and to preclude any last minute, unforeseen issues from arising. Pre-construction meetings held during the

Certification process must be publicly noticed unless they are confined to administrative issues and processes.

ENERGY COMMISSION RECORD

The Energy Commission shall maintain the following documents and information as a public record, in either the Compliance file or Dockets 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 of Certification changes and the resulting staff or Energy Commission action.

PROJECT OWNER RESPONSIBILITIES

The project owner is responsible for ensuring that the compliance Conditions of Certification and all other Conditions of Certification that appear in the Commission Decision are satisfied. The compliance Conditions regarding post-Certification changes specify measures that the project owner must take when requesting changes in the project design, Conditions of Certification, or ownership. Failure to comply with any of the Conditions of Certification or the compliance Conditions may result in reopening of the case and revocation of Energy Commission Certification; an administrative fine; or other action as appropriate. A summary of the Compliance Conditions of Certification is included as **Compliance Table 1** at the conclusion of this section.

COMPLIANCE CONDITIONS OF CERTIFICATION

Unrestricted Access (COMPLIANCE-1)

The CPM, responsible Energy Commission staff, and delegated 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 (COMPLIANCE-2)

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

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

Compliance Verification Submittals (COMPLIANCE-3)

Each Condition of Certification is followed by a means of verification. The verification describes the Energy Commission's procedure(s) to ensure post-Certification compliance with adopted Conditions. The verification procedures, unlike the Conditions, may be modified as necessary by the CPM.

Verification of compliance with the Conditions of Certification can be accomplished by the following:

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

Verification lead times 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 project by AFC number, the appropriate Condition(s) of Certification by Condition number(s), and 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 and CEC submittal number.

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 hardcopy submittals shall be addressed as follows:

**Angelique Juarez-Garcia, Compliance Project Manager
(08-AFC-7C)
California Energy Commission
1516 Ninth Street (MS-2000)
Sacramento, CA 95814**

Those submittals shall be accompanied by a searchable electronic copy, on a CD or by e-mail, as agreed upon by the CPM.

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

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

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

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

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

If the project owner anticipates commencing project construction as soon as the project is certified, it may be necessary for the project owner to file compliance submittals prior to project Certification. Compliance submittals should be completed in advance where the necessary lead time for a required compliance event extends beyond the date anticipated for start of construction. The project owner must understand that the submittal of compliance documents prior to project Certification is at the owner's own risk. Any approval by Energy Commission staff is subject to change, based upon the Commission Decision.

COMPLIANCE REPORTING

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

Compliance Matrix (COMPLIANCE-5)

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

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

Satisfied Conditions shall be placed at the end of the matrix.

Monthly Compliance Report (COMPLIANCE-6)

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

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

1. A summary of the current project construction status, a revised/updated schedule if there are significant delays, and an explanation of any significant changes to the schedule;
2. Documents required by specific Conditions to be submitted along with the Monthly Compliance Report. Each of these items must be identified in the transmittal letter, as well as the Conditions they satisfy and submitted as attachments to the Monthly Compliance Report;
3. An initial, and thereafter updated, compliance matrix showing the status of all Conditions of Certification;
4. A list of Conditions that have been satisfied during the reporting period, and a description or reference to the actions that satisfied the Condition;
5. A list of any submittal deadlines that were missed, accompanied by an explanation and an estimate of when the information will be provided;
6. A cumulative listing of any approved changes to Conditions of Certification;
7. A listing of any filings submitted to, or permits issued by, other governmental agencies during the month;
8. A projection of project compliance activities scheduled during the next two months. The project owner shall notify the CPM as soon as any changes are made to the project construction schedule that would affect compliance with Conditions of Certification;
9. A listing of the month's additions to the on-site compliance file; and
10. A listing of complaints, notices of violation, official warnings, and citations received during the month, a description of the resolution of the resolved actions, and the status of any unresolved actions.

All sections, exhibits, or addendums shall be separated by tabbed dividers or as acceptable by the CPM.

Annual Compliance Report (COMPLIANCE-7)

After construction is complete, the project owner shall submit Annual Compliance Reports instead of Monthly Compliance Reports. The reports are for each year of commercial operation and are due to the CPM each year at a date agreed to by the CPM. Annual Compliance Reports shall be submitted over the life of the

project unless otherwise specified by the CPM. Each Annual Compliance Report shall include the AFC number, identify the reporting period and shall contain the following:

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

Confidential Information (COMPLIANCE-8)

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

Annual Energy Facility Compliance Fee (COMPLIANCE-9)

Pursuant to the provisions of Section 25806(b) of the Public Resources Code, the project owner is required to pay an annual compliance fee, which is adjusted

annually. Current Compliance fee information is available on the Energy Commission's website http://www.energy.ca.gov/siting/filing_fees.html. You may also contact the CPM for the current fee information. The initial payment is due on the date the Energy Commission adopts the final decision. All subsequent payments are due by July 1 of each year in which the facility retains its Certification. The payment instrument shall be made payable to the California Energy Commission and mailed to: Accounting Office MS-02, California Energy Commission, 1516 9th St., Sacramento, CA 95814.

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

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

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

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

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

Facility Closure

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

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

CLOSURE DEFINITIONS

Planned Closure

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

Unplanned Temporary Closure

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

Unplanned Permanent Closure

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

COMPLIANCE CONDITIONS FOR FACILITY CLOSURE

Planned Closure (COMPLIANCE-11)

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

The plan shall:

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

3. Identify any facilities or equipment intended to remain on site after closure, the reason, and any future use; and
4. Address conformance of the plan with all applicable laws, ordinances, regulations, standards, and local/regional plans in existence at the time of facility closure, and applicable Conditions of Certification.

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

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

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

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

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

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

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

The on-site contingency plan shall provide for taking immediate steps to secure the facility from trespassing or encroachment. In addition, for closures of more than 90 days, unless other arrangements are agreed to by the CPM, the plan shall provide for removal of hazardous materials and hazardous wastes, draining of all chemicals from storage tanks and other equipment, and the safe shutdown

of all equipment. (Also see specific Conditions of Certification for the technical areas of **Hazardous Materials Management** and **Waste Management**.)

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

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

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

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

The on-site contingency plan required for unplanned temporary closure shall also cover unplanned permanent facility closure. All of the requirements specified for unplanned temporary closure shall also apply to unplanned permanent closure.

In addition, the on-site contingency plan shall address how the project owner will ensure that all required closure steps will be successfully undertaken in the event of abandonment.

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

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

Post Certification Changes to the Energy Commission Decision: Amendments, Ownership Changes, Staff Approved Project Modifications and Verification Changes (COMPLIANCE-14)

The project owner must petition the Energy Commission pursuant to Title 20, California Code of Regulations, section 1769, in order to modify the project

(including linear facilities) design, operation or performance requirements, and to transfer ownership or operational control of the facility. **It is the responsibility of the project owner to contact the CPM to determine if a proposed project change should be considered a project modification pursuant to section 1769.** Implementation of a project modification without first securing Energy Commission, or Energy Commission staff approval, may result in enforcement action that could result in civil penalties in accordance with section 25534 of the Public Resources Code.

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

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

Amendment

The project owner shall petition the Energy Commission, pursuant to Title 20, California Code of Regulations, Section 1769(a), when proposing modifications to the project (including linear facilities) design, operation, or performance requirements. If a proposed modification results in deletion or change of a Condition of Certification, or makes changes that would cause the project not to comply with any applicable laws, ordinances, regulations or standards, the petition will be processed as a formal amendment to the final decision, which requires public notice and review of the Energy Commission staff analysis, and approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of Section 1769(a). Upon request, the CPM will provide you with a sample petition to use as a template.

Change of Ownership

Change of ownership or operational control also requires that the project owner file a petition pursuant to section 1769 (b). This process requires public notice and approval by the full Commission. The petition shall be in the form of a legal brief and fulfill the requirements of Section 1769(b). Upon request, the CPM will provide you with a sample petition to use as a template.

Staff Approved Project Modification

Modifications that do not result in deletions or changes to Conditions of Certification, that are compliant with laws, ordinances, regulations and standards and will not have significant environmental impacts may be authorized by the

CPM as a staff approved project modification pursuant to section 1769(a) (2). This process usually requires minimal time to complete, and it requires a 14-day public review of the Notice of Petition to Amend that includes staff's intention to approve the proposed project modification unless substantive objections are filed. These requests must also be submitted in the form of a "petition to amend" as described above.

Verification Change

A verification may be modified by the CPM without requesting an amendment to the decision if the change does not conflict with the Conditions of Certification and provides an effective alternate means of verification.

CBO Delegation and Agency Cooperation

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

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

Enforcement

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

NONCOMPLIANCE COMPLAINT PROCEDURES

Any person or agency may file a complaint alleging noncompliance with the Conditions of Certification. Such a complaint will be subject to review by the Energy Commission pursuant to Title 20, California Code of Regulations, section 1237, but in many instances the noncompliance can be resolved by using the informal dispute resolution process. Both the informal and formal complaint procedure, as described in current State law and regulations, are described below. They shall be followed unless superseded by future law or regulations.

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

Informal Dispute Resolution Process

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

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

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

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. Within seven working days of the CPM's request, provide a written report to the CPM of the results of the investigation, including corrective measures proposed or undertaken. Depending on the urgency of the noncompliance matter, the CPM may conduct a site visit and/or request the project owner to also provide an initial verbal report, within 48 hours.

Request for Informal Meeting

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

1. Immediately schedule a meeting with the requesting party and the project owner, to be held at a mutually convenient time and place;
2. Secure the attendance of appropriate Energy Commission staff and staff of any other agencies with expertise in the subject area of concern, as necessary;
3. Conduct such meeting in an informal and objective manner so as to encourage the voluntary settlement of the dispute in a fair and equitable manner; and
4. After the conclusion of such a meeting, promptly prepare and distribute copies to all in attendance and to the project file, a summary memorandum that fairly and accurately identifies the positions of all parties and any understandings 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

Any person may file a complaint with the Energy Commission's Dockets Unit alleging noncompliance with a Commission decision adopted pursuant to Public Resources Code section 25500. Requirements for complaint filings and a description of how complaints are processed are in Title 20, California Code of Regulations, section 1237.

KEY EVENTS LIST

PROJECT: _____

DOCKET #: _____

COMPLIANCE PROJECT MANAGER: _____

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

COMPLIANCE TABLE 1
SUMMARY of COMPLIANCE CONDITIONS OF CERTIFICATION

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

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

**ATTACHMENT A
COMPLAINT REPORT/RESOLUTION FORM**

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

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

IV. ENGINEERING ASSESSMENT

The broad engineering assessment of the GWF Tracy Project consists of separate analyses that examine its facility design, engineering, efficiency, and reliability aspects. These analyses include the on-site power generating equipment and project-related linear facilities.

A. FACILITY DESIGN

This review covers several technical disciplines including the civil, electrical, mechanical, and structural engineering elements related to project design and construction. The evidentiary presentations were uncontested. (11/30/09 RT 6-9; Exs. 2; 3; 26; 27; 28; 29; 30; 31; 32; 65; 66; 69; 86; 96; 200, § 5.1.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Application for Certification (AFC) describes the preliminary facility design. In considering the adequacy of the plans, the Commission reviews whether the power plant and linear facilities are described with sufficient detail to assure the project can be designed and constructed in accordance with applicable engineering laws, ordinances, regulations, and standards (LORS). The review also includes, as appropriate, the identification of special design features that are necessary to deal with unique site conditions which could impact public health and safety, the environment, or the operational reliability of the project. (Ex. 200, pp. 5.1-1 to 5.1-2.)

Staff proposed several Conditions of Certification, which we have adopted, that establish a design review and construction inspection process to verify compliance with applicable standards and special requirements. (Ex. 200, p. 5.1-2.) The project will be designed and constructed in conformance with the latest edition of the California Building Standards Code (currently the 2007 CBSC) and other applicable codes and standards in effect at the time design approval and construction actually begin. (Ex. 200, p. 5.1-3.) Condition of Certification **GEN-1** incorporates this requirement.

Staff considered potential geological hazards and reviewed the preliminary project design with respect to grading, flood protection, erosion control, site drainage, and site access in addition to the criteria for designing and constructing related linear facilities such as the transmission interconnection facilities. (Ex. 200, pp. 5.1-2 to 5.1-3; see also, the **GEOLOGY AND PALEONTOLOGY** section

of this Decision.) The evidence establishes that the project will incorporate accepted industry standards. This includes design practices and construction methods for preparing and developing the site. (Ex. 200, p. 5.1-3.) Conditions **CIVIL-1** through **CIVIL-4** ensure that these activities will be conducted in compliance with applicable LORS.

Major structures, systems, and equipment include those structures and associated components necessary for power production and facilities used for storage of hazardous or toxic materials, as well as those capable of becoming potential health and safety hazards if not constructed properly. (Ex. 200, p. 5.1-3.) **Table 1**, contained in Condition **GEN-2**, lists the major structures and equipment included in the initial engineering design for the project.³ Conditions **GEN-3** through **GEN-8** require that qualified individuals oversee and inspect construction of the facility. Similarly, Conditions **MECH-1** through **MECH-3** address compliance of the project's mechanical systems with appropriate standards, and a quality assurance/quality control program assures that the GWF Tracy Project will be designed, procured, fabricated, and installed as described. Condition **ELEC-1** provides assurance that design and construction of major electrical features will comply with applicable LORS. Compliance with design requirements will be verified through specific inspections and audits.

The power plant site is located in Seismic Risk Zone 4. (Ex. 200, p. 5.1-2.) The 2007 CBC requires specific "dynamic" lateral force procedures for certain structures to determine their seismic design criteria; others may be designed using a "static" analysis procedure. To ensure that project structures are analyzed appropriately, Condition **STRUC-1** requires the project owner to submit its proposed lateral force procedures to the Chief Building Official⁴ (CBO) for review and approval prior to the start of construction. (Ex. 200, p. 5.1-3.)

³ The master drawing and master specifications lists described in Condition **GEN-2** include documents based on the project's *detailed* design and may include additional documents for structures and equipment not currently identified in Table 1. (Ex. 200, p. 5.1-3.)

⁴ The Energy Commission is the CBO for facilities we certify. We may delegate CBO authority to local building officials and/or independent consultants to carry out design review and construction inspections. When CBO duties are delegated, we require a Memorandum of Understanding with the delegate entity to outline respective roles, responsibilities, and qualifications of involved individuals such as those described in Conditions of Certification **GEN-1** through **GEN-8**. (Ex. 200, p. 5.1-4.) The Conditions further require that every appropriate element of project construction be first approved by the CBO and that qualified personnel perform or oversee inspections.

The evidentiary record also addresses project closure, which may range from “mothballing” the facility to removing all equipment and restoring the site. (Ex. 200, p. 5.1-5.) To ensure that decommissioning of the facility will conform to applicable LORS and be completed in a manner that protects the environment and public health and safety, the project owner is required to submit a decommissioning plan which will identify: decommissioning activities; applicable LORS in effect when decommissioning occurs; activities necessary to restore the site, if appropriate; and decommissioning alternatives. (*Id.*) Related requirements are described in the general closure provisions of the Compliance Monitoring and Closure Plan. See the **COMPLIANCE AND CLOSURE** section in this Decision.

Overall, the evidentiary record conclusively establishes that the project will be designed and constructed in compliance with all applicable LORS, and that these activities will not negatively impact public health and safety.

FINDINGS OF FACT

Based on the uncontroverted evidence, the Commission makes the following findings:

1. The GWF Tracy Project is currently in the preliminary design stage.
2. The proposed facility can be designed and constructed in conformity with the applicable laws, ordinances, regulations, and standards (LORS) set forth in the appropriate portion of **Appendix A** of this Decision.
3. The Conditions of Certification set forth below provide, in part, that qualified personnel will perform design review, plan checking, and field inspections of the project.
4. 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 as well as public health and safety.
5. The **GENERAL CONDITIONS**, included in the **COMPLIANCE AND CLOSURE** section of this Decision, establish requirements to be followed in the event of facility closure.

CONCLUSION OF LAW

1. We therefore conclude that implementation of the Conditions of Certification listed below ensure that the GWF Tracy Project will be designed and constructed in conformance with the applicable LORS pertinent to the engineering aspects summarized in this section of the Decision.

CONDITIONS OF CERTIFICATION

GEN-1 The project owner shall design, construct, and inspect the project in accordance with the 2007 California Building Standards Code (CBSC), also known as Title 24, California Code of Regulations, which encompasses the California Building Code (CBC), California Building Standards Administrative Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Fire Code, California Code for Building Conservation, California Reference Standards Code, and all other applicable engineering LORS in effect at the time initial design plans are submitted to the Chief Building Official (CBO) for review and approval. The CBSC in effect is the edition that has been adopted by the California Building Standards Commission and published at least 180 days prior to the time initial design plans are submitted to the CBO. The project owner shall ensure that all the provisions of the above applicable codes are enforced during the construction, addition, alteration, moving, demolition, repair, or maintenance of the completed facility. (See the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision for Conditions of Certification for all transmission facilities [lines, switchyards, switching stations, and substations].)

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

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

Verification: Within 30 days following receipt of the certificate of occupancy, the project owner shall submit a statement of verification to the Compliance Project Manager (CPM), 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 a copy of the certificate of occupancy to the CPM within 30 days of receipt from the CBO.

Once the certificate of occupancy has been issued, the project owner shall inform the CPM at least 30 days prior to any construction, addition, alteration, moving, demolition, repair, or maintenance being performed on any portion(s) of the completed facility that requires CBO approval for compliance with the codes identified in **GEN-1**. The CPM shall then determine if the CBO needs to approve the work.

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

Verification: At least 60 days prior to the start of rough grading (or within the project owner and CBO approved alternative time frame), the project owner shall submit the schedule of facility design, master drawing list, and master specifications list of documents to the CBO and CPM prior to submitting the initial engineering designs to the CBO for review and approval. These documents shall be the pertinent design documents for the major structures and equipment listed in **Facility Design Table 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.

**Facility Design Table 1
Major Structures and Equipment List**

Equipment/System	Quantity (Plant)
Steam Turbine (ST) Foundation and Connections	1
ST Generator Foundation and Connections	1
Heat Recovery Steam Generator (HRSG) Structure, Foundation and Connections	2
HRSG Stack Structure, Foundation and Connections	2
SCR Skid Structure, Foundation and Connections	2
Duct Burner Skid Structure, Foundation and Connections	2
Boiler Feed Pump Foundation and Connections	4
Boiler Blowdown Tank Foundation and Connections	2
CEMS Structure, Foundation and Connections	2
Generator Rotor Removal	1
ST Lube Oil Reservoir Foundation and Connections	1
Gland Condenser Foundation and Connections	1
ST Step-up Transformer Foundation and Connections	1
ST Auxiliary Transformer Foundation and Connections	1
Water Treatment Building Structure, Foundation and Connections	1
Demineralized Water Tank Foundation and Connections	1
Steam Duct Structure, Foundation and Connections	1
Air-Cooled Condenser Structure, Foundation and Connections	1
Auxiliary Boiler & Stack Structure, Foundation and Connections	1
D.I. Trailer Structure, Foundation and Connections	2
Service/Fire Water Storage Tank Foundation and Connections	1
Fire Water Storage Tank Foundation and Connections	1
ST Closed Cycle Cooling Unit Structure, Foundation and Connections	1
Storm Water Retention Basin Relocation	1
Drainage Systems (including sanitary drain and waste)	1 Lot
High Pressure and Large Diameter Piping and Pipe Racks	1 Lot
HVAC and Refrigeration Systems	1 Lot
Temperature Control and Ventilation Systems (including water and sewer connections)	1 Lot
Building Energy Conservation Systems	1 Lot
Switchyard, Buses, and Towers	1 Lot
Electrical Duct Banks and Breakers	1 Lot

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

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

GEN-4 Prior to the start of rough grading, the project owner shall assign a California- registered architect or structural/civil engineer as the resident engineer (RE) in charge of the project. (See the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision for Conditions of Certification for all transmission facilities [lines, switchyards, switching stations, and substations].)

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

The RE shall:

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

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

If the RE or the delegated engineers are reassigned or replaced, the project owner shall submit the name, qualifications, and registration number of the newly assigned engineer to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approval of the new engineer.

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

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

GEN-5 Prior to the start of rough grading, the project owner shall assign at least one of each of the following California-registered engineers to the project: a civil engineer; a soils, geotechnical, or civil engineer experienced and knowledgeable in the practice of soils engineering; and an engineering geologist.

Prior to the start of construction, the project owner shall assign at least one of each of the following California-registered engineers to the project: a design engineer who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; a mechanical engineer; and an electrical engineer. (California Business and Professions Code section 6704 et seq., and sections 6730, 6731 and 6736 require state registration to practice as a civil engineer or structural engineer in California). (See the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision for Conditions of Certification for all transmission facilities [lines, switchyards, switching stations, and substations].)

The project owner shall submit the names, qualifications, and registration numbers of all responsible engineers assigned to the project to the CBO for review and approval. If any designated responsible engineer 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.

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 (e.g., proposed earthwork, civil structures, power plant structures, equipment support) of the project. 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.

A. The civil engineer shall:

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

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

1. Review all the engineering geology reports;
2. Prepare the foundation investigations, geotechnical, and/or soils reports containing field exploration reports, laboratory tests, and engineering analysis detailing the nature and extent of the soils that could be susceptible to liquefaction, rapid settlement, or collapse when saturated under load;

3. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with requirements set forth in the 2007 CBC. Depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both; and
4. Recommend field changes to the civil engineer and RE.

This engineer shall be authorized to halt earthwork and require changes if site conditions are unsafe or do not conform to the predicted conditions used as the basis for design of earthwork or foundations.

C. The engineering geologist shall:

1. Review all the engineering geology reports and prepare a final soils grading report; and
2. Be present, as required, during site grading and earthwork to provide consultation and monitor compliance with the requirements set forth in the 2007 CBC. Depending on the site conditions, this may be the responsibility of either the soils engineer, the engineering geologist, or both.

D. The design engineer shall:

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

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

F. The electrical engineer shall:

1. Be responsible for the electrical design of the project; and

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

Verification: At least 30 days prior to the start of rough grading (or within the project owner and CBO approved alternative time frame), the project owner shall submit resumes and registration numbers of the responsible civil engineer, soils (geotechnical) engineer, and engineering geologist assigned to the project to the CBO for review and approval.

At least 30 days prior to the start of construction (or within the project owner and CBO approved alternative time frame), the project owner shall submit resumes and registration numbers of the responsible design engineer, mechanical engineer, and electrical engineer assigned to the project to the CBO for review and approval. The project owner shall notify the CPM of the CBO's approvals of the responsible engineers within five days of the approval.

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

GEN-6 Prior to the start of an activity requiring special inspection(s), the project owner shall assign qualified and certified special inspector(s) to the project who shall be responsible for the special inspections required. (See the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision for Conditions of Certification for all transmission facilities [lines, switchyards, switching stations, and substations].)

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

The special inspector shall:

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

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

Verification: At least 15 days prior to the start of an activity requiring special inspection (or within the project owner and CBO approved alternative time frame), the project owner shall submit 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 in **GEN-6** to the CBO for review and approval, with a copy to the CPM. The project owner shall also submit a copy of the CBO's approval of the qualifications of all special inspectors to the CPM in the next monthly compliance report.

If a 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 identify the required corrective actions. The discrepancy documentation shall be submitted to the CBO for review and approval. The discrepancy documentation shall reference this Condition of Certification and, if appropriate, applicable sections of the CBC and/or other LORS.

Verification: The project owner shall transmit a copy of the CBO's approval of any corrective action taken to resolve a discrepancy to the CPM in the next monthly compliance report. If any corrective action is disapproved, the project owner shall advise the CPM, within five days, of the reason for disapproval and the revised corrective action necessary to obtain the 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 that the CBO inspect the completed structure and review the submitted documents. The project owner shall notify the CPM after obtaining the CBO's final approval. The project owner shall retain one set of approved engineering plans, specifications, and calculations (including all approved changes) at the project site or another accessible location during the operating life of the project. Electronic copies of the approved plans, specifications, calculations, and marked-up as-builts shall be provided to the CBO for retention by the CPM.

Verification: Within 15 days of the completion of any work, the project owner shall submit: (1) a written notice that the completed work is ready for final inspection; and (2) a signed statement that the work conforms to the final

approved plans to the CBO, with a copy to the CPM, in the next monthly compliance report. After storing the final approved engineering plans, specifications, and calculations required by **GEN-8**, the project owner shall submit a letter to the CPM stating that the above documents have been stored and identifying the storage location of those documents.

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

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

1. Design of the proposed drainage structures and grading plan;
2. Erosion and sedimentation control plan;
3. Related calculations and specifications, signed and stamped by the responsible civil engineer; and
4. Soils, geotechnical, and/or foundation investigations reports required by the 2007 CBC.

Verification: At least 15 days prior to the start of site grading (or within the project owner and CBO approved alternative time frame), the project owner shall submit the documents required by **CIVIL-1** to the CBO for design review and approval. The project owner shall submit a written statement certifying that the documents have been approved by the CBO in the next monthly compliance report following the CBO's approval.

CIVIL-2 The resident engineer shall have the authority to stop all earthwork and construction in the affected area(s) in the event the responsible soils engineer, geotechnical engineer, or the civil engineer experienced and knowledgeable in the practice of soils engineering identifies unforeseen adverse soil or geologic conditions. The project owner shall submit modified plans, specifications, and calculations to the CBO based on the newly identified soil or geologic conditions. The project owner shall obtain CBO approval before resuming earthwork and construction in the affected area.

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

CIVIL-3 The project owner shall perform inspections in accordance with the 2007 CBC and other applicable LORS. All plant site-grading operations for which a grading plan is required shall be subject to inspection by the CBO.

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

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

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

Verification: Within 30 days of the completion of the erosion and sediment control mitigation and drainage work (or within the project owner and CBO approved alternative time frame), the project owner shall submit the final grading plans (including final changes) to the CBO for review and approval, along with 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. A copy of the transmittal letter shall be sent concurrently to the CPM. The project owner shall submit a copy of the CBO's approval to the CPM in the next monthly compliance report.

STRUC-1 Prior to the start of any increment of construction for any major structure or component listed in **GEN-2, Facility Design Table 1**, the project owner shall submit the proposed lateral force procedures for project structures and the applicable designs, plans, and drawings for project structures to the CBO for design review and approval. Proposed lateral force procedures, designs, plans, and drawings shall be provided for the following items (from **Facility Design Table 1** above):

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

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

The project owner shall:

1. Obtain approval of lateral force procedures proposed for project structures from the CBO;
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 (e.g. highest loads or lowest allowable stresses). All plans, calculations, and specifications for foundations that support structures shall be filed concurrently with the structure plans, calculations, and specifications;
3. Submit the required number of copies of the structural plans, specifications, calculations, and other required documents of the designated major structures to the CBO prior to the start of on-site fabrication and installation of each structure, equipment support, or foundation;
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; and
5. Submit the responsible design engineer's signed statement to the CBO, certifying that the final design plans conform to applicable LORS.

Verification: At least 60 days prior to the start of any increment of construction (or within the project owner and CBO approved alternative time frame) for any structure or component listed in **GEN-2, Facility Design Table 1**, the project owner shall submit the above final design plans, specifications, and calculations to the CBO, with a copy of the transmittal letter to the CPM.

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

STRUC-2 The project owner shall submit the required number of sets of the following documents to the CBO, 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 in accordance with the 2007 CBC or other applicable LORS.

Verification: The project owner shall, within five days, prepare and submit an NCR to the CBO describing the nature of discrepancies discovered in any of the data required in **STRUC-2** and the proposed corrective action, with a copy of the transmittal letter to the CPM. The NCR shall reference the Condition(s) of Certification and the applicable CBC chapter and section.

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

STRUC-3 The project owner shall submit design changes to the final plans required by the 2007 CBC to the CBO, including the revised drawings, specifications, calculations, and a complete description of, and supporting rationale for, the proposed changes and shall give to the CBO prior notice of the intended filing.

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

STRUC-4 Tanks and vessels containing quantities of toxic or hazardous materials exceeding amounts specified in the 2007 CBC shall, at a minimum, be designed to comply with the applicable chapter of the code.

Verification: At least 30 days prior to the start of installation of tanks or vessels containing quantities of toxic or hazardous materials exceeding amounts specified in the 2007 CBC (or within the project owner and CBO approved alternate time frame), the project owner shall submit final design plans, specifications, and calculations, including a copy of the signed and stamped engineer's certification, to the CBO for design review and approval.

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

MECH-1 The project owner shall submit the proposed final design, specifications, and calculations for each plant major piping and plumbing system listed in **GEN-2, Facility Design Table 1** for CBO design review and approval, along with applicable quality assurance/quality control (QA/QC) procedures. Physical layout drawings and drawings not related to code compliance and life safety need not be submitted. Upon completion of construction of any such major piping or plumbing system, the project owner shall request the CBO's inspection approval of that construction.

The responsible mechanical engineer shall stamp and sign all plans, drawings, and calculations for the major piping and plumbing systems, subject to CBO design review and approval, and submit a signed statement to the CBO when the proposed piping and plumbing systems have been designed, fabricated, and installed in accordance with all of the applicable laws, ordinances, regulations, and industry standards. These industry LORS may include, but are not limited to:

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

The CBO may deputize inspectors to carry out the functions of the applicable code enforcement agency.

Verification: At least 30 days prior to the start of any increment of major piping or plumbing construction listed in **GEN-2, Facility Design Table 1** (or within the project owner and CBO approved alternative time frame), the project owner shall submit the final plans, specifications, and calculations, including a copy of the signed and stamped statement from the responsible mechanical engineer certifying compliance with applicable LORS, to the CBO for design review and approval and shall send the CPM a copy of the transmittal letter in the next monthly compliance report.

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

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

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 certifying 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 prior to the start of on-site fabrication or installation of any pressure vessel (or within the project owner and CBO approved alternative time frame), the project owner shall submit the documents required in **MECH-2**, including a copy of the signed and stamped engineer's certification, to the CBO for design review and approval, with a copy of the transmittal letter to the CPM.

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

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

The project owner shall design and install all HVAC and refrigeration systems within buildings and related structures in accordance with the CBC and other applicable codes. Upon completion of any increment of construction, the project owner shall request the CBO's inspection and approval of that construction. The final plans, specifications, and calculations shall include approved criteria, assumptions, and methods used to develop the design. In addition, the responsible mechanical engineer shall sign and stamp all plans, drawings, and calculations and submit a signed statement to the CBO that the proposed final design plans, specifications, and calculations conform with the applicable LORS.

Verification: At least 30 days prior to the start of construction of any HVAC or refrigeration system (or within the project owner and CBO approved alternative time frame), the project owner shall submit 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 to the CBO, with a copy of the transmittal letter to the CPM.

ELEC-1 Prior to the start of any increment of electrical construction for all electrical equipment and systems 480 Volts or higher (see a representative list, below), with the exception of underground duct work and any physical layout drawings and drawings not related to code compliance and life safety, the project owner shall submit the proposed final design, specifications, and calculations to the CBO for design review and approval. 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. (See the **TRANSMISSION SYSTEM ENGINEERING** section of this Decision for Conditions of Certification for all transmission facilities [lines, switchyards, switching stations, and substations].)

A. Final plant design plans shall include:

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

B. Final plant calculations must establish:

1. Short-circuit ratings of plant equipment;
 2. Ampacity of feeder cables;
 3. Voltage drop in feeder cables;
 4. System grounding requirements;
 5. Coordination study calculations for fuses, circuit breakers, and protective relay settings for the 13.8 kV, 4.16 kV, and 480 V systems;
 6. System grounding requirements; and
 7. Lighting energy calculations.
- C. The following activities shall be reported to the CPM in the monthly compliance report:
1. Receipt or delay of major electrical equipment;
 2. Testing or energization of major electrical equipment; and
 3. A signed statement by the registered electrical engineer certifying that the proposed final design plans and specifications conform to requirements set forth in the Energy Commission Decision and Conditions of Certification.

Verification: At least 30 days prior to the start of each increment of electrical construction (or within the project owner and CBO approved alternative time frame), the project owner shall submit the documents required in **ELEC-1** to the CBO for design review and approval. The project owner shall include in this submittal a copy of the signed and stamped statement from the responsible electrical engineer attesting to 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 GWF Tracy Project will use substantial amounts of natural gas for its fuel. Pursuant to the California Environmental Quality Act (CEQA), we must determine whether the consumption of this non-renewable form of energy will result in substantial impacts upon energy resources. (Cal. Code Regs., tit. 14, § 15126.4(a)(1), App. F.)

The evidence of record on this matter is uncontested and examines the project's: energy requirements and energy use efficiency; effects on local and regional energy supplies and resources; requirements for additional energy supply capacity; and compliance with applicable energy standards. In addition, the evidence of record addresses whether there are feasible alternatives which would reduce any wasteful, inefficient, or unnecessary energy consumption attributable to the project. (11/30/09 RT 6-9; Exs. 2; 89; 98; 99; 200, § 5.3.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project involves adding 145 MW of generation to the existing 169 MW Tracy Peaker Project (TPP), and operating the power plant (totaling 314 MW) in combined cycle mode. The converted project will use the two existing General Electric (GE) frame 7EA combustion turbine generators (CTGs) from the TPP, two new multi-pressure heat recovery steam generators (HRSGs) with duct burners, and one new reheat steam turbine generator (STG) with an air cooled condenser for exhaust steam cooling. (Ex. 200, p. 5.3-1.) The CTGs will be equipped with dry low-NO_x combustors and the HRSGs with selective catalytic reduction (SCR) systems. (Ex. 200, pp. 5.3-1 to 5.3-2.)

The project will burn natural gas at a maximum rate of approximately 2,915 million Btu (British Thermal Units) per hour, higher heating value. Under expected conditions, GWF Tracy will generate electricity at a full load efficiency of approximately 45.2 percent lower heating value (LHV) with duct burning and 48.3 percent LHV without. (Ex. 200, p. 5.3-2.)

Project fuel efficiency, and therefore its rate of energy consumption, is determined by the configuration of the power producing system and by the selection of equipment used to generate power. The GWF Tracy Project will be configured as a combined cycle power plant in which electricity is generated by two gas turbine generators and additionally by a reheat steam turbine generator that operates on heat energy recovered from the gas turbines' exhaust. By

recovering this heat which would otherwise be lost up the exhaust stacks, the efficiency of any combined cycle power plant is increased considerably from that of either gas turbines or a steam turbine operating alone. (Ex. 200, p. 5.3-3.)

The project will incorporate evaporative inlet air coolers, HRSG duct burners, multi-pressure HRSGs, and a steam turbine unit with an air cooled condenser to cool steam exhaust. (*Id.*) The evidence shows that these features contribute to meaningful efficiency enhancement. The two-train CTG/HRSG configuration allows for high efficiency during unit turndown because one CTG can operate at a more efficient full load while the other is shut down, rather than operating two CTGs at an inefficient 50 percent load. The project includes HRSG duct burners to augment heat to the STG cycle during high ambient temperatures when CTG capacity drops and for added power output. Duct firing also provides a number of operational benefits such as load following, as well as balancing and optimizing the operation of the STG cycle. The evidence establishes that the GWF Tracy Project's configuration is well-suited to the large, steady loads met by a base load power plant intended to supply energy efficiently for long periods of time. (*Id.*)

Modern gas turbines embody the most fuel-efficient generating technology currently available. The turbines can be grouped into three categories: conventional; advanced; and next generation. The evidence of record contains an analysis of the equipment proposed for the project. While it indicates that advanced turbines offer advantages such as higher efficiency than conventional turbines like the Frame 7EA, the evidence also establishes that the turbines selected have been "tailored" to the present project and, given its intended operation, are the best option. (Ex. 200, p. 5.3-4.) The evidence further establishes that the project's dry cooling system will reduce efficiency about 1.5 percent from that achievable were a wet cooling tower system used. The evidence characterizes this reduction as "minor" in light of the "vast improvements" in the mitigation of water supply and wastewater disposal impacts derived from the use of dry cooling. (Ex. 200, p. 5.3-5.) The evidence also shows that the use of an evaporative cooler for gas turbine inlet air cooling is appropriate since the alternative – the mechanical chiller – offers no real efficiency benefit. (*Id.*)

The fuel will be delivered via the existing Pacific Gas and Electric (PG&E) line which currently serves the peaker project. The evidence conclusively establishes that PG&E's present fuel supply capacity is sufficient to meet the demands of the GWF Tracy Project. (Ex. 200, pp. 5.3-2 to 5.3-3.) Moreover, the evidence

shows that only natural gas burning technologies are feasible for this project. Other technologies such as nuclear, solar, biomass, hydroelectric, wind and geothermal were all considered but cannot meet project objectives, are simply not feasible, or are unavailable in the area. (Ex. 200, p. 5.3-4.)

In conclusion, the uncontradicted evidence of record shows that the GWF Tracy Project will enhance the State's electrical system and support integration of renewable generation by providing flexible, dispatchable additional power supply and displacing operation of older, less efficient power plants. It will provide this benefit in the most fuel efficient manner practicable, without creating adverse effects on energy supplies or resources. The project will not require additional sources of energy supply or consume energy in a wasteful or inefficient manner. (Ex. 200, pp. 5.3-5 to 5.3-6.)

FINDINGS OF FACT

Based on the uncontroverted evidence of record, we make the following findings:

1. The GWF Tracy Project will provide approximately 314 MW of base load electrical power, operate in combined cycle mode, and utilize two GE Frame 7EA gas turbines.
2. Under average annual ambient conditions, the project will generate electricity at an overall fuel efficiency of approximately 45.2 percent, LHV, with duct burning.
3. The project's combined cycle configuration incorporates HRSG duct burners and an evaporative cooler. This configuration is well suited to the large steady loads met by a base load plant to efficiently supply energy for long periods of time.
4. Use of the GE Frame 7EA is appropriate for the GWF Tracy Project.
5. The project will not require the development of new fuel supply resources.
6. The project will consume natural gas in as efficient a manner as practicable.
7. The evidence of record contains a comparative analysis of alternative fuel sources and generation technologies, none of which is superior to the proposed project at meeting project objectives in an efficient manner.

8. The project will enhance the State's electrical system as a whole by providing flexible, dispatchable additional power supply and displacing operation of older, less efficient power plants.
9. The use of dry cooling yields somewhat lower efficiency than the use of a wet cooling tower system on hot summer days. This lower efficiency is, however, outweighed by the lesser water supply and wastewater disposal impacts associated with the use of dry cooling.
10. No Federal, State, or local laws, ordinances, regulations, or standards apply to the efficiency of this project.

CONCLUSION OF LAW

1. The GWF Tracy Project will not create adverse effects upon energy supplies or resources, require additional sources of energy supply, or consume energy in a wasteful or inefficient manner. No Conditions of Certification are required for this topic area.

C. POWER PLANT RELIABILITY

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

The responsibility for maintaining system reliability falls largely to control area operators such as the California Independent System Operator (CAISO) that purchase, dispatch, and sell electric power throughout the State. The CAISO has begun to establish specific criteria for each load-serving entity under its jurisdiction to help the entities decide how much generating capacity and ancillary services to build or purchase. Load serving entities then issue power purchase agreements to satisfy these needs. GWF, as a load-serving entity, must meet CAISO criteria which include maintaining a 15 percent reserve margin and increasing local generation to reduce reliance upon imported power.

The CAISO criteria are designed to maintain system-wide reliability. However, it is possible that, if numerous power plants operated at reliability levels sufficiently lower than historical levels, the assumptions used by CAISO to ensure system reliability would prove invalid. Therefore, to ensure adequate system reliability, we examine whether individual power plants will be built and operated to the traditional level of reliability reflected in the power generation industry because, where a power plant compares favorably to industry norms, it is not likely to degrade the overall reliability of the electric system it serves. (Ex. 200, pp. 5.4-2 to 5.4-3.) The evidence presented on this topic was uncontested. (11/30/2009 RT 6-9; Exs. 2; 90; 200, § 5.4.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

Applicant expects an equivalent availability factor of 92 to 98 percent for the GWF Tracy Project. The availability factor for a power plant is the percentage of time that it is available to generate power. Both planned and unplanned outages subtract from a plant's availability. For practical purposes, a reliable power plant is one that is available when called upon to operate. The evidence shows that delivering acceptable reliability entails: 1) adequate levels of equipment availability; 2) plant maintainability with scheduled maintenance outages; 3) fuel and water availability; and 4) resistance to natural hazards. (Ex. 200, p. 5.4-3.)

The record, summarized below, reflects Commission staff's evaluation of the proposed project against typical industry norms as a benchmark for assessing plant reliability.

1. Equipment Availability

Equipment availability will be ensured by use of appropriate quality assurance/quality control (QA/QC) programs during design, procurement, construction, and operation of the plant and by providing adequate maintenance and repair of the equipment and systems. The project owner will use a QA/QC program typical in the power industry. Equipment will be purchased from qualified suppliers and the project owner will perform receipt inspections, test components, and administer independent testing contracts. (Ex. 200, p. 5.4-3.) To ensure these measures are taken, we have incorporated appropriate Conditions of Certification in the **FACILITY DESIGN** section of this Decision.

2. Plant Maintainability

The GWF Tracy Project will be operated in base load service. It must thus be capable of being maintained while operating. A typical approach for achieving this is to provide redundant pieces of the equipment most likely to require service or repair.

The evidence shows that the project incorporates an appropriate redundancy of function. It consists of two combustion turbine generators operating in parallel as independent equipment trains. A single equipment failure cannot disable more than one train, thus allowing the plant to continue to generate at reduced output. In addition, all plant ancillary systems are designed with adequate redundancy to ensure continued operation in the face of equipment failure. (Ex. 200, p. 5.4-4.)

The project owner will establish a maintenance program typical of the power generation industry and based on recommendations from the various equipment manufacturers. This will encompass both preventive and predictive maintenance techniques. Maintenance outages will be planned for periods of low electricity demand. The evidence establishes that the planned maintenance measures will ensure acceptable reliability. (*Id.*)

3. Fuel and Water Availability

For any power plant the long-term availability of fuel, and water for cooling or process use, is necessary to ensure reliability. The GWF Tracy Project will burn natural gas supplied by PG&E from its system. This fuel will be supplied by interconnecting with the existing on-site line currently serving the peaker plant. The evidence establishes that this line offers access to adequate supplies of gas to meet the project's needs. (Ex. 200, p. 5.4-4.)

The project will obtain raw water from the Byron-Bethany Irrigation District. This water will be supplied from the Delta-Mendota Canal and will be treated on-site to suit project needs for combustion turbine evaporative coolers, HRSG make-up, fire protection, and other plant uses. A 125,000 gallon demineralized water storage tank will allow operation to continue if the water supply is interrupted. Bottled water will be supplied for drinking.

The evidence establishes that the water source, combined with the on-site storage capacity, yield sufficient likelihood of a reliable supply of water. (Ex. 200, pp. 5.4-4 to 5.4-5.)

4. Natural Hazards

The site lies in Seismic Risk Zone 4. The project will be designed and constructed to the Seismic Zone 4 standards of the latest appropriate LORS. By implementing these seismic design criteria, this project will likely perform at least as well as, and perhaps better than, existing plants in the electric power system. We have adopted Conditions of Certification in the **FACILITY DESIGN** section to ensure this occurs.

The site does not receive storm water runoff from the surrounding area, nor is it within a 100 or 500 year flood plain. Flooding therefore poses no credible risk. (Ex. 200, p. 5.4-5.)

5. Comparison to Industry Norms

The North American Electric Reliability Corporation (NERC) maintains industry statistics for availability factors and other related reliability data. NERC currently reports summary generating unit statistics for the years 1999 through 2003 which demonstrate an availability factor of nearly 89 percent for combined cycle units of all sizes. (Ex. 200, pp. 5.4-5 to 5.4-6.) The project's General Electric Frame 7EA

gas turbines have been on the market for more than two decades and can be expected to exhibit typical high availability. We are persuaded that the project will likely reach its predicted annual availability factor approaching 92 to 98 percent.

Finally, the evidence shows that the GWF Tracy Project will enhance power supply reliability and contribute to the electricity reserves in the region. The evidence characterizes these factors as “noteworthy projects benefits.” (Ex. 200, p. 5.4-6.)

FINDINGS OF FACT

Based on the uncontested evidence, we make the following findings:

1. No federal, state, or local/county LORS apply to the reliability of the GWF Tracy Project.
2. A project’s reliability is acceptable if it does not degrade the reliability of the utility system to which it is connected.
3. The North American Electric Reliability Corporation (NERC) reports that, for the years 1999 through 2003, combined cycle units of all sizes (in megawatts) exhibited an availability factor of nearly 89 percent.
4. An availability factor of 92 to 98 percent is achievable by the GWF Tracy Project.
5. Implementation of Quality Assurance/Quality Control (QA/QC) programs during design, procurement, construction, and operation of the plant, as well as adequate maintenance and repair of the equipment and systems, will ensure the project is adequately reliable.
6. Appropriate Conditions of Certification included in the **FACILITY DESIGN** portion of this Decision ensure implementation of the QA/QC programs and conformance with seismic design criteria.
7. The project’s fuel and water supplies will be reliable.
8. The project will meet or exceed industry norms for reliability, including reliability during seismic events, and will not degrade the overall electrical system.

9. The use of two combustion turbine generators, configured as independent equipment trains, provides the GWF Tracy Project inherent reliability.
10. The project will provide base load power. Total operation will approach 8,000 hours annually.
11. The project will enhance California's power supply reliability and contribute to electricity reserves in the region.

CONCLUSION OF LAW

1. We therefore conclude that the GWF Tracy Project will meet industry norms and not degrade the overall reliability of the electrical system.

No Conditions of Certification are required for this topic area.

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. Res. Code, § 25107.) The Commission assesses the engineering and planning design of new transmission facilities associated with a proposed project to ensure compliance with applicable law. The record indicates that the Applicant in this case accurately identified all necessary interconnection facilities.

The California Independent System Operator (CAISO) is responsible for ensuring electric system reliability for participating entities, and determines both the standards necessary to achieve system reliability and whether a proposed project conforms to those standards. The Commission works in conjunction with the CAISO in assessing a project.

Staff's analysis evaluates the power plant switchyard, outlet line, termination and downstream facilities identified by the Applicant, and include Conditions of Certification to ensure the project complies with applicable laws during the design review, construction, operation, and potential closure of the project. No evidence of record disputes these matters. (11/30/09 RT 5; Exs. 3, 32, 58, 61, 65, 69, 91, 200.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

GWF Tracy will be located in a 16.38 acre site within the existing 40 acre property owned by GWF Tracy, LLC, and on which the Tracy Peaker Plant (TPP) is currently sited.

GWF Tracy will modify the existing TPP, by converting the facility into a combined-cycle power plant with a nominal 145 MW of additional net plant generating capacity. The new steam turbine generator (STG) will be connected to a three-phase generation step-up (GSU) transformer that will be connected to the existing 115-kV onsite Tracy Switchyard bus via a short span of transmission line. From the Tracy Switchyard, the generated power would be connected to the regional electric grid via the existing onsite 115-kV overhead transmission tie-line and existing Pacific Gas and Electric Company (PG&E) Schulte Switching Station located on the GWF Tracy site. (Exs. 3, p. 3-1; 200, p. 5.5-5.)

GWF Tracy proposes to interconnect to the CAISO Controlled Grid. To interconnect the new generation, PG&E will loop the Tesla-Manteca 115-kV transmission line adjacent to the GWF Tracy site into the on-site PG&E Schulte Switching Station. Three segments of the existing 115-kV transmission system would be reconductored downstream of the first point of interconnection to accommodate the additional power output. Power would then be routed via existing transmission lines to PG&E's Tesla, Kasson, and Manteca Substations approximately five miles away.

GWF Tracy's proposed commercial operation date is April 1, 2013.

1. Switching Station Upgrades

As discussed above, there are currently two on-site switchyards at GWF Tracy. (Ex. 3, p. 3-2.) One switchyard is owned by GWF Tracy and the other, a point of delivery switchyard, is owned by PG&E. The two switchyards are connected by a 735-foot tie-in line. To accommodate the proposed 145 MW of new generation output from GWF Tracy, the following reliability upgrades will be made:

- The existing ring bus system at the PG&E Schulte Switching Station would be converted to a 3,000-ampere double bus configuration with three switch bays, with one and half 2,000-ampere breaker arrangement and associated disconnect switches suitable for terminating six lines. The Switching Station 115-kV bus would be extended and five new 2,000-ampere breakers with ten 2,000-ampere disconnect switches will be installed.
- A new switch bay with three 2,000-ampere breakers for two outgoing lines would be used for looping the PG&E Tesla-Manteca 115-kV line through the Switching Station. The loop lines would be about 1,000-foot long and be built on about 50-foot high dead-end pole structures.
- Reconductoring the existing 716-foot generator overhead 115-kV line between the GWF Tracy switchyard and the PG&E Schulte Switching Station with single 1,431 kcmil aluminum conductor steel-supported (ACSS) conductor with vertical configuration on the existing 70-foot high dead-end pole structures. The termination facilities at both ends would remain unchanged. (Exs. 3, p. 3-2 to 3-3; 200, p. 5.5-5.)

GWF Tracy will build the proposed interconnection facilities for the new STG unit, and make modifications to the existing switchyard. GWF will also perform the reconductoring of the existing generator tie line, and own and operate the facilities. (Ex. 200, p. 5.5-6.) PG&E will build the upgrades in the Schulte

Switching Station and continue to own and operate the station. (Ex. 200, p. 5.5-6.)

Implementation of the Conditions of Certification will ensure that construction and operation the GWF facilities, modifications and upgrades to the GWF Tracy switchyard and PG&E Schulte Switching Station, and the reconductoring activities will be performed in accordance with industry standards and good utility practices and applicable LORS. (Ex. 200, p. 5.5-6.)

2. Study Results

The evidence of record details various studies which were performed to assess the project's impacts upon the transmission system and to analyze the CAISO grid with and without GWF Tracy under Conditions specified in the planning standards and reliability criteria.

a. Interconnection System Impact Study (SIS):

Under the Federal Energy Regulatory Commission's Large Generation Interconnection Procedures, CAISO, and PG&E performed an Interconnection Impact Study (SIS). (Ex. 32.) The SIS was derived from PG&E's 2007 base case series and was prepared with and without the GWF Tracy 145 MW generation output based on the expected April 1, 2013, commercial operation date. (Exs. 32; 200, p. 5.5-7.) The study included analyses for power flow, short circuit, substation evaluation, transient stability, and reactive power deficiency. (Exs. 32; 200, p. 5.5-7.)

The SIS evaluated the existing transmission facilities near GWF Tracy to identify transmission lines with adequate capacity to accommodate the output of the proposed plant. The study evaluated the impacts of GWF Tracy under these scenarios:

- 2013 Summer Peak Base Case - Developed from PG&E 2007 base case series and has a 1-in-10 year extreme weather (heat wave) load level for the Central Valley area
- A 2013 Summer Off-Peak Base Case – Evaluated the load in the Central Valley at 30 percent-35 percent of the summer peak load level and rest of the PG&E loads were modeled with 2013 spring peak loads.

- A 2013 Spring Peak Base Case - Developed the load in the greater Central Valley area at 50 percent of the summer peak load and high hydro generation available. (Exs. 32, p. 1, 6, Appen. A; 200, p. 5.5-7.)

These base cases modeled all approved PG&E transmission reliability projects that would be operational by 2013 and all proposed generation projects that would be operational by 2013. (Ex. 32; p. 7, Appen. A.)

In summary, the respective ground fault simulations regarding short circuit and substation evaluation and transient stability led to the determinations that the addition of GWF Tracy would not cause circuit breaker fault duty and would have no adverse impacts on the transmission system. (Ex. 200, p. 5.5-9, SIS §§ 7, 10, 11.) The power flow studies with category B and C contingencies show that GWF Tracy would not cause voltage drops of 5 percent or more from pre-project levels and would meet applicable voltage criteria in the PG&E system. (Exs. 32, pp. 12 to 16; 200, p. 5.5-10, SIS, § 9.)

b. Interconnection System Impact Restudy (ISIR)/Interconnection Facilities Study (IFAS):

After completion of the SIS, CAISO performed an Interconnection System Impact Restudy/Interconnection Facilities Study (IFAS) in coordination with PG&E to provide updated power flow analysis results, and work scope and cost estimates for the interconnection facilities including upgrades in the PG&E Schulte Switching Station and downstream network reliability upgrades in the PG&E system (assuming PG&E will engineer, construct, own, and maintain the Schulte Switching Station and downstream network upgrades. (Exs. 65; 200, p. 5.5-7.)

This study focused solely on impacts of GWF on the PG&E transmission system. (Exs. 65, pp. 7 to 14; 200, p. 5.5-7.) In each of the cases, Northern California generation and critical seasonal power flows in WECC paths were maintained within limits. (Exs. 65, pp. 7 to 14; 200, p. 5.5-7.) Each of the cases included planned CAISO approved transmission upgrades that would be operational by 2013 and all queue generation higher than GWF Tracy. (Exs. 65, pp. 7 to 14; 200, p. 5.5-7.)

The ISIR/IFAS study demonstrates that GWF Tracy's generation output would not cause any new normal overloads or voltage violations in the PG&E network for the 2013 seasonal system conditions studies. (Ex. 200, p. 5.5-1, 5.5-8.) However, under certain emergency contingency conditions GWF Tracy would cause new overloads on some downstream PG&E facilities and increase pre-

project overloads. (Exs, 65, p. 13; 200, p. 5.5-8.) With respect to increasing pre-project overloads under normal and/or category B or category C contingency conditions⁵, the addition of GWF Tracy exacerbates the following lines during 2013 different seasonal system conditions:

- Warnerville-Wilson 230-kV line.
- Vierra-Tracy-Kasson 115-kV line (Cross Road Jct.. – Tracy section).
- Schulte SW ST-Lammers 115-kV line (Schulte SW ST-Owens tap 1 section).
- Kasson-Louise 60-kV line (Kasson-Mosssdale SW section).
- Kasson 155/60-kV line-kV transformer bank #1.
- Manteca-Louise 60-kV line (Louse Jct.-Manteca section).
- Tesla-Salado-Manteca 15-kV line (Manteca-Ingraham Creek section).
- Tesla-Wesley 230-kV line.

Because the pre-project overloads on these lines are caused by generation projects that have higher queue position and earlier on-line dates than GWF Tracy, the higher queue projects are responsible for mitigating these overloads. (Ex. 200, p. 5.5-8.) If any of the higher queue projects do not happen or the provided mitigation does not resolve the overloads, then GWF Tracy might be responsible for mitigating the overloads it causes.

In contrast, GWF Tracy must mitigate the new overloads it will cause to two new transmission facilities. More particularly, there will be new overloads to Vierra-Tracy-Kasson 115-kV line (Cross Road. – Kasson Jct. 2 section). The line loading increases from 97 percent to 104 percent of its emergency rating during 2013 summer peak system conditions under Category B contingency of the Schulte SW St-Kasson-Manteca 115-kV line and the Stanislaus Powerhouse. (Ex. 200, p. 5.5-9.) The proposed mitigation, which Staff deems acceptable, is the reconductoring of the 2.5-mile section of the line with 477 kcmil aluminum steel-supported (ACSS) or equivalent conductors along with upgrading the existing substation terminal equipment of the line to match or exceed the rating of the new conductors. (Exs. 65, pp. 13 to 14; 200, p. 5.5-9.)

⁵ The emergency overloads refer to overloads that occur during single element contingencies (Category B) or multiple element contingencies (Category “C”).

Similarly, the loading on the Schulte SW ST-Kasson-Manteca 115-kV line (Kasson Jct. – Schulte section) increases from 74 percent to 103 percent of its emergency rating during 2013 summer peak system conditions due to category B contingency of the Schulte ST-Lammers 15-kV line. Preferred mitigation, which Staff deems acceptable, is installing a Special Protection System to reduce GWF Tracy generation to 125 MW or lower under specific contingency conditions. (Exs. 65, p.14; 200, p. 5.5-9.)

3. Downstream Facilities

Accommodating the interconnection of the GWF Tracy new generation output at the Schulte Switching Station would require downstream reliability upgrades at the Switching Station and reconductoring the Vierra-Tracy-Kasson 115-kV line. PG&E would do construction for reconductoring the line, which would occur within the existing PG&E right-of-way between the substations. (Ex. 200, p. 5.5-10.)

4. Cumulative Impacts

Staff concluded that GWF Tracy generation could create some cumulative effects in the network because it, as local generation, is being connected to the rural sparse 115-kV network with long transmission lines and increasing load demand. (Ex. 200, p. 5.5-11.) The cumulative impacts, as identified in the ISIR/IFAS and discussed above, would be mitigated to less than significant.

5. CAISO Approval

CAISO, instead of issuing a final approval letter, will execute a Large Generator Interconnection Agreement (LGIA) with the project owner, and subsequently perform an operational study/procedure examining the impacts of GWF Tracy on the grid based on the expected April 1, 2013, commercial operation date. (Ex. 200, p. 5.5-10.) Performance of the operational study/procedure and execution of the LGIA would ensure system reliability in the CAISO grid and compliance with Western Electricity Coordinating Council/North American Electric Reliability Council and CAISO planning standards. (Ex. 200, pp. 5.5-10, 5.5-15.)

FINDINGS OF FACT

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

1. No new transmission lines, other than those proposed by Applicant, are required for the project.
2. The record includes a System Impact Study which analyzes potential reliability and congestion impacts that could occur when GWF Tracy interconnects to the grid.
3. GWF Tracy will cause overloads to the transmission grid under specified conditions, but such impacts are mitigated to less-than-significant with implementation of the Conditions of Certification.
4. The GWF Tracy Project switchyard and interconnection facilities will be adequate and reliable. The power plant switchyard, outlet lines, and termination are in accordance with good utility practices and are acceptable.
5. Adding local generation such as the GWF Tracy will provide positive impacts because it would meet the increasing load demand in San Joaquin County and the City of Tracy, provide additional reactive power and voltage support, and enhance reliability. It might also reduce system losses in the PG&E local network.
6. The Conditions of Certification are adequate to ensure that GWF Tracy does not adversely impact the transmission grid.

CONCLUSIONS OF LAW

1. We therefore conclude that with the implementation of the various mitigation measures specified in this Decision, the proposed transmission interconnection for the project will not contribute to significant adverse direct, indirect, or cumulative impacts.
2. The Conditions of Certification below ensure that the transmission-related aspects of GWF Tracy will be designed, constructed, and operated in conformance with the applicable laws, ordinances, regulations, and standards identified in the appropriate portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

TSE-1 The project owner shall furnish to the CPM and to the 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 construction, the project owner shall submit the schedule, a Master Drawing List, and a Master Specifications List to the CBO and to the CPM. The schedule shall contain a description and list of proposed submittal packages for design, calculations, and specifications for major structures and equipment (see a list of major equipment in **Table 1: Major Equipment List** below). Additions and deletions shall be made to the table only with CPM and CBO approval. The project owner shall provide schedule updates in the Monthly Compliance Report.

Table 1: Major Equipment List
Breakers
Step-up Transformer
Switchyard
Busses
Surge Arrestors
Disconnects and Wave-traps
Take off facilities
Electrical Control Building
Switchyard Control Building
Transmission Pole/Tower
Insulators and Conductors
Grounding System

TSE-2 Prior to the start of construction the project owner shall assign an electrical engineer and at least one of each of the following to the project:

- a) A civil engineer;
- b) A geotechnical engineer or a civil engineer experienced and knowledgeable in the practice of soils engineering;
- c) A design engineer, who is either a structural engineer or a civil engineer fully competent and proficient in the design of power plant structures and equipment supports; or
- d) A mechanical engineer.

(Business and Professions Code Sections 6704 et seq., require state registration to practice as a civil engineer or structural engineer in California.)

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

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

The electrical engineer shall:

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

Verification: At least 30 days (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 If any discrepancy in design and/or construction is discovered in any engineering work that has undergone CBO design review and approval, the project owner shall document the discrepancy and recommend corrective action (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 become a controlled document and shall be submitted to the CBO for review and approval and shall reference this Condition of Certification.

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

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

- a) Receipt or delay of major electrical equipment;
- b) Testing or energization 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 to compliance with the applicable LORS, and send the CPM a copy of the transmittal letter in the next Monthly Compliance Report.

TSE-5 The project owner shall ensure that the design, construction and operation of the proposed transmission facilities will conform to all applicable LORS, including the requirements listed below. The project owner shall submit the required number of copies of the

design drawings and calculations to the CBO as determined by the CBO.

- a) The power plant switchyard and outlet line shall meet or exceed the electrical, mechanical, civil and structural requirements of CPUC General Order 95 or National Electric Safety Code (NESC), Title 8 of the California Code and Regulations (Title 8), Articles 35, 36 and 37 of the “High Voltage Electric Safety Orders”, California ISO standards, National Electric Code (NEC) and related industry standards.
- b) Breakers and busses in the power plant switchyard and other switchyards, where applicable, shall be sized to accommodate full output from the project and 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) The project conductors shall be sized to accommodate the full output from the project.
- e) Termination facilities shall comply with applicable PG&E interconnection standards.

The project owner shall provide to the CPM:

1. The Special Protection System (SPS) sequencing and timing if applicable,
2. A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation are acceptable,
3. The Operational study report based on April 1, 2013 or current Commercial Operation Date (COD) system conditions from the California ISO and/or PG&E, and
4. A copy of the executed LGIA signed by the California ISO and the project owner.

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

Design drawings, specifications and calculations conforming with CPUC General Order 95 or NESC, Title 8, Articles 35, 36 and 37 of the “High Voltage Electric Safety Orders”, NEC, applicable interconnection standards and related industry standards, for the poles/towers, foundations, anchor bolts, conductors, grounding systems and major switchyard equipment.

For each element of the transmission facilities identified above, the submittal package to the CBO shall contain the design criteria, a discussion of the calculation method(s), a sample calculation based on “worst case conditions”⁶ and a statement signed and sealed by the registered engineer in responsible charge, or other acceptable alternative verification, that the transmission element(s) will conform with CPUC General Order 95 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, “High Voltage Electric Safety Orders”, NEC, applicable interconnection standards, and related industry standards.

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

The Special Protection System (SPS) sequencing and timing if applicable shall be provided concurrently to the CPM.

A letter stating that the mitigation measures or projects selected by the transmission owners for each reliability criteria violation are acceptable.

The Operational study report based on April 1, 2013 or current Commercial Operation Date (COD) system conditions from the California ISO and/or PG&E, and a copy of the executed LGIA signed by the California ISO and the project owner.

TSE-6 The project owner shall inform the CPM and CBO of any impending changes that may not conform to requirements **TSE-5** A through F, 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 that may not conform to requirements of **TSE-5** and request approval to implement such changes.

TSE-7 The project owner shall provide the following Notice to the California Independent System Operator (California ISO) prior to synchronizing the facility with the California Transmission system:

⁶ Worst case conditions for the foundations would include for instance, a dead-end or angle pole.

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

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

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

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

- 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 or NESC, Title 8, California Code of Regulations, Articles 35, 36 and 37 of the, “High Voltage Electric Safety Orders”, 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 electrical, mechanical, structural, and civil portion of the transmission facilities shall be maintained at the power plant and made available, if requested, for CPM audit as set forth in the “Compliance Monitoring Plan.”

- 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 charge.

E. TRANSMISSION LINE SAFETY AND NUISANCE

The Tracy 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 portion of the Decision assesses the potential impacts of the transmission line on aviation safety, radio frequency interference, audible noise, fire hazards, and hazardous and nuisance shocks. It also examines any risks arising from electric and magnetic field (EMF) exposure, as well as whether mitigation measures are required to reduce any potential impacts to insignificant levels. The evidence submitted by Applicant and Staff was uncontested. (11/30/09 RT 6-9; Exs. 3; 82; 97; 200; 201.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The Tracy Combined Cycle Project includes building and operating a new on-site 115-kV switchyard and a new on-site overhead 115-kV transmission line. This line, which traverses a sparsely populated area with no nearby residences, will connect the project to the existing 115-kV switchyard. To accommodate the project's power, two segments of the existing peaker plant's connection to the Kasson Substation will be upgraded and the existing PG&E Schulte Substation will be expanded. The upgrades will basically consist of replacing the existing conductors with larger capacity ones; two 45 foot tall, 5.5 foot diameter tubular steel support structures will also be added to allow looping the existing Tesla Manteca transmission line into the project site. (Ex. 200, p. 4.11-4.) Since the tie-line will be operated in the PG&E service area, its design, erection, and maintenance will conform to standard PG&E practices. This, in turn, assures compliance with applicable LORS. (Ex. 200, pp. 4.11-1, 4.11-4.)

The potential impacts from the project's transmission line involve aircraft collisions, interference with radio frequency communication, audible noise, hazardous shocks, nuisance shocks, fire danger, and EMF exposure. Regarding each of these potential impacts, the evidence of record conclusively establishes the following:

- *Aviation Safety*

Any potential hazard to area aircraft relates to the potential for collision in the navigable airspace and the need to file a "Notice of Proposed Construction or Alteration" with the FAA. The project site is not located near a major commercial aviation center. The nearest airport, the Stockton Airport, is more than twenty

miles northwest of the site. The smaller Tracy Municipal Airport is within two miles of the site. Its runway is oriented away from the transmission line and thus will not pose a collision hazard to aircraft utilizing that airport or trigger the need for an FAA notice of construction. Since existing transmission corridors will be used, the line will not pose new hazards to local crop dusters. (Ex. 200, p. 4.11-5.)

- *Interference with Radio-Frequency Communication*

This potential impact arises from corona discharge and is primarily a concern for lines larger than 345-kV. The project's 115-kV line and upgrades will be built and maintained according to standard PG&E practices aimed at minimizing any interference. Moreover, there are no nearby residential receptors. If interference should occur, however, Condition of Certification **TLSN-2** requires the project owner to mitigate these effects as feasible. (Ex. 200, pp. 4.11-5 to 4.11-6.)

- *Audible Noise*

This is typically perceived as a characteristic crackling, hissing, or frying sound or hum, especially in wet weather. The noise level depends upon the strength of the line's electric field, and is a concern mainly from lines of 345-kV or higher. It can be limited through design, construction, and maintenance practices. The project line (115-kV) will embody a low corona design to minimize field strengths. It is not expected that the line will add significantly to the current background noise levels.⁷ (Ex. 200, p. 4.11-6.)

- *Hazardous Shocks*

These could result from contact between an individual and the energized line. Compliance with the CPUC's GO-95, as required in Condition of Certification **TLSN-1**, will ensure that adequate measures are implemented to mitigate this potential impact. (Ex. 200, p. 4.11-7.)

- *Nuisance Shocks*

Nuisance shocks are typically caused by direct contact with metal objects electrically charged by fields from the energized line. They are effectively

⁷ Overall project noise levels are discussed in the **NOISE** section of this Decision.

minimized through grounding procedures for all metallic objects within the right-of-way as specified in Condition of Certification **TLSN-5**. (Ex. 200, p. 4.11-7.)

- *Fire Hazards*

Fire can be caused by sparks from the line's conductors or by direct contact between the line and nearby trees or other combustible objects. PG&E's standard fire prevention and suppression measures, and compliance with the clearance-related aspects of GO-95 as required in Condition of Certification **TLSN-4**, ensure that appropriate fire prevention measures are implemented. (Ex. 200, p. 4.11-6.)

- *Exposure to Electric and Magnetic Fields*

Electric and magnetic fields (EMF) occur whenever electricity flows. The possibility of deleterious health effects from exposure to EMF has raised public health concerns about living and working near high-voltage lines.⁸ Due to the present scientific uncertainty regarding potential health effects from EMF exposure, CPUC policy requires reduction of such fields, if feasible, without affecting the safety, efficiency, reliability, and maintainability of the transmission grid. (Ex. 200, p. 4.11-7.)

The CPUC requires each new transmission line in California to be designed according to the EMF-reducing guidelines of the electric utility in the service area involved. EMF fields produced by new lines must be similar to the fields of comparable lines in that service area. To comply with CPUC requirements for EMF management, PG&E's specific field strength-reducing measures will be incorporated into the project line's design and include:

- Increasing the distance between the conductors and the ground to an optimal level;
- Reducing the spacing between the conductors to an optimal level;
- Minimizing the current in the line; and

⁸ While scientific research has not established a definitive correlation between EMF exposure and adverse health effects, the potential for EMF-related health hazards remains at issue. In this regard, the CPUC requires the regulated utilities, including PG&E, to incorporate EMF-reducing measures in the design, construction, and maintenance of new or upgraded transmission facilities within their service areas. (Ex. 200, p. 4.11-8.)

- Arranging current flow to maximize the cancellation effects from the interacting of conductor fields. (Ex. 200, pp. 4.11-9 to 4.11-10.)

The evidentiary record contains an estimation of the field strengths at the centerline and at 200 feet on either side along the lines.⁹ Condition of Certification **TLSN-3** requires that actual field strengths be measured, according to accepted procedures, to insure that the field intensities are similar to those of other PG&E lines. (Ex. 200, p. 4.11-10.)

Since there are no residences in the vicinity of the proposed project line, and since the line is located on GWF or PG&E property and within existing corridors, there will not be the long-term human residential EMF exposures primarily responsible for the health concern of recent years. The only project-related EMF exposures of potential significance are the short-term exposures of plant workers, regulatory inspectors, maintenance personnel, visitors, or individuals in the immediate vicinity of the line. These types of exposures are well understood as not being significantly related to an adverse health effect. (Ex. 200, p. 4.11-9.)

Overall, the evidence shows that the project will be designed, constructed, operated, and maintained in compliance with applicable LORS. Implementation of the Conditions of Certification will ensure that any impacts are reduced to less than significant levels. (Ex. 200, p. 4.11-11.)

FINDINGS OF FACT

Based on the uncontroverted evidence of record, we make the following findings:

1. The Tracy Combined Cycle Project includes the construction and operation of a new on-site 115-kV switchyard, an on-site overhead 115-kV transmission line, the expansion of the existing Schulte Switching Station, and the upgrading of portions of PG&E's existing 115-kV system.
2. The evidentiary record includes analyses of potential impacts from the project's new and upgraded transmission lines involving aircraft collisions, interference with radio frequency communication, audible noise, hazardous shocks, nuisance shocks, fire danger, and EMF exposure.
3. There are no residences along the route of the project's new transmission line.

⁹ The magnetic field intensity within the route is calculated at 115 milligauss (mG). The maximum electric field strength is calculated at 0.7 kilovolt per meter (kV/m). The evidence indicates that these field strengths are consistent with those of similar PG&E lines. (Ex. 200, p. 4.11-10.)

4. The available scientific evidence does not establish that EMF fields pose a significant health hazard to humans.
5. The electric and magnetic fields generated by the project's transmission line will be managed to the extent the CPUC considers appropriate, based on available health effects information.
6. The project's transmission line will comply with existing LORS for public health and safety.
7. The project's transmission line will incorporate standard EMF-reducing measures established by the CPUC and used by PG&E.
8. The project owner will provide field intensity measurements before and after line energization to assess EMF contributions from the project-related current flow.
9. The new transmission line and the upgraded portions of the existing system will not result in significant adverse environmental impacts to public health and safety or cause significant direct, indirect, or cumulative impacts in the areas of aviation safety, radio frequency communication, fire hazards, nuisance or hazardous shocks, or electric and magnetic field exposure.

CONCLUSIONS OF LAW

1. Implementation of the Conditions of Certification, below, will ensure that the Tracy Project's outlet line complies with all applicable laws, ordinances, regulations, and standards relating to transmission line safety and nuisance as identified in the pertinent portion of **Appendix A** of this Decision.
2. Neither the Tracy Project's new transmission outlet line, nor the upgraded portions of the existing lines, will have a significant impact on the environment because of transmission line safety and nuisance factors.

CONDITIONS OF CERTIFICATION

- TLSN-1** The project owner shall construct the new lines and upgrade the identified line segments according to the requirements of the California Public Utility Commission's GO-95, GO-52, GO-131-D, Title 8, and Group 2 High Voltage Electrical Safety Orders, Sections 2700 through

2974 of the California Code of Regulations, and PG&E's EMF-reduction guidelines.

Verification: At least 30 days before starting construction of the proposed new lines and system upgrades, the project owner shall submit to the Compliance Project Manager (CPM) a letter signed by a California registered electrical engineer affirming that the lines and related structures will be constructed according to the requirements stated in the condition.

TLN-2 The project owner shall ensure that every reasonable effort is made to identify and correct, on a case-specific basis, any complaints of interference with radio or television signals from operation of the project's transmission line or associated switchyard.

Verification: At least 30 days before starting operation, the project owner shall submit to the CPM a letter signed by a California registered electrical engineer affirming the project owner's intention to comply with this requirement.

TLN-3 The project owner shall use a qualified individual to measure the strengths of the electric and magnetic fields from the constructed line and system upgrades at the points of maximum intensity for which intensity estimates were provided by the Applicant. The measurements shall be made before and after energization according to the American National Standard Institute/Institute of Electrical and Electronic Engineers (ANSI/IEEE) standard procedures. These measurements shall be completed not later than six months after the start of operations.

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

TLN-4 The project owner shall ensure that the rights-of-way of the project's line are kept free of combustible material as required under the provisions of Section 4292 of the Public Resources Code and Section 1250 of Title 14 of the California Code of Regulations.

Verification: At least 30 days before the start of operations, the project owner shall transmit to the CPM a letter affirming the project owner's intention to comply with this condition.

TLN-5 The project owner shall ensure that all permanent metallic objects within the right-of-way of the constructed project line are grounded according to industry standards regardless of ownership.

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

V. PUBLIC HEALTH AND SAFETY

Operation of the GWF Tracy Combined Cycle Power Plant (GWF Tracy) will create combustion products and utilize certain hazardous materials that could potentially cause adverse health effects to the general public and to the workers at the facility. The following sections describe the regulatory programs, standards, protocols, and analyses that address these issues.

A. GREENHOUSE GAS (GHG) EMISSIONS

1. Introduction and Summary

The generation of electricity using fossil fuels, such as the natural gas that GWF Tracy will consume, produces both “criteria pollutants” and greenhouse gas (GHG) emissions. Criteria pollutants are emissions that are known to adversely affect public health and for which regulatory agencies have established legal “criteria,” which limit both the amount of the pollutants that may be emitted as well as the concentrations of the pollutants in the air. GWF Tracy’s criteria pollutant emissions, and the project’s compliance with applicable air quality laws, are discussed in the **Air Quality** section of this Decision.

This part of the Decision assesses the GHG emissions that are likely to result from the construction and the operation of the GWF Tracy facility.

The greenhouse gases are carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFC), and perfluorocarbons (PFC). CO₂ emissions are far and away the most common of these emissions; as a result, even though the other GHGs have a greater impact on climate change on a per-unit basis, GHG emissions are often expressed in terms of “metric tons of CO₂-equivalent” (MTCO₂e) for simplicity. (Ex. 200, p. 4.1-84.)

Adding GHG to the atmosphere increases the insulating power of the air and thereby traps more heat at and near the earth’s surface. Prevailing scientific opinion considers GHG emissions to be the cause of significant changes in climate over the past several decades, and that such emissions “if not sufficiently curtailed, are likely to contribute further to continued increases in global temperatures.” (Ex. 200, p. 4.1-81.) The California Legislature has declared that “[g]lobal warming poses a serious threat to the economic well-being, public

health, natural resources, and the environment of California.” (Health & Saf. Code, § 38500.)

Since the impact of the GHG emissions from a power plant’s operation has global, rather than local, effects, those impacts should be assessed not only by analysis of the plant’s emissions, but also in the context of the operation of the entire electricity system of which the plant is an integrated part. Furthermore, the impact of the GHG emissions from a power plant’s operation should be analyzed in the context of applicable GHG laws and policies, such as AB 32.

In this part of the Decision we consider:

- Whether GWF Tracy’s GHG construction emissions will have significant impacts;
- Whether GWF Tracy’s operation will be consistent with the state’s GHG policies and will help achieve the state’s GHG goals, by (1) causing a decrease in overall electricity system GHG emissions; and (2) supporting the addition of renewable generation into the system, which will further reduce system GHG emissions.

2. Policy and Regulatory Framework

We begin with the simple observation that, as the Legislature stated 35 years ago, “it is the responsibility of state government to ensure that a reliable supply of electrical energy is maintained at a level consistent with the need for such energy for protection of public health and safety, for promotion of the general welfare, and for environmental quality protection.” (Pub. Res. Code, § 25001.) Today, as a result of legislation, the most recent addition to “environmental quality protection” is the reduction of GHG emissions. Several laws and statements of policy are applicable.

a. AB 32

The foundation of California’s GHG policy is the California Global Warming Solutions Act of 2006. [Assembly Bill 32, codified in Health & Saf. Code, § 38560 et seq. (hereinafter AB 32).] AB 32 requires the California Air Resources Board (“CARB”) to adopt regulations that will reduce statewide GHG emissions, by the year 2020, to the level of statewide GHG emissions that existed in 1990. Gubernatorial Executive Order S-3-05 (June 1, 2005) requires a further reduction, to a level 80 percent below the 1990 GHG emissions, by the year 2050.

Along with all other regulatory agencies in California, the Energy Commission recognizes that meeting the AB 32 goals is vital to the state's economic and environmental health. While AB 32 goals have yet to be translated into regulations that limit GHG emissions from generating facilities, the scoping plan adopted by ARB relies heavily on cost-effective energy efficiency and demand response, renewable energy, and prioritization of generation resources to achieve significant reductions of emissions in the electricity sector by 2020. Even more dramatic reductions in electricity sector emissions would likely be required to meet California's 2050 greenhouse gas reduction goal. Facilities under our jurisdiction, such as GWF Tracy, must be consistent with these policies.¹⁰

b. Renewable Portfolio Standard

California statutory law requires the state's utilities to be obtaining at least 20 percent of their electricity supplies from renewable sources by the year 2020. (Pub. Util. Code, § 399.11 et seq.) Recent gubernatorial Executive Orders increase the requirement to 33 percent and require CARB to adopt regulations to achieve the goal. [Governor's Exec. Orders Nos. S-21-09 (Sept. 15, 2009), S-14-08 (Nov. 17, 2008).]

c. Emissions Performance Standard

Senate Bill (SB) 1368 of 2006, and regulations adopted by the Energy Commission and the Public Utilities Commission pursuant to the bill, prohibit utilities from entering into long-term commitments with any base load facilities that exceed an Emission Performance Standard (EPS) of 0.500 metric tonnes of CO₂ per megawatt-hour (this is the equivalent of 1100 pounds CO₂/MWh). (Pub. Util. Code, § 8340 et seq.; Cal. Code Regs., tit. 20, § 2900 et seq.; CPUC D0701039.) Currently, the EPS is the only LORS that has the effect of limiting power plant GHG emissions.

¹⁰ Of course, GWF Tracy and all other stationary sources will need to comply with any applicable GHG LORS that take effect in the future.

d. Loading Order

In 2003 the Energy Commission and the CPUC agreed on a “loading order” for meeting electricity needs. The first energy resources that should be utilized are energy efficiency and demand response (at the maximum level that is feasible and cost-effective), followed by renewables and distributed generation, combined heat and power (also known as cogeneration), and finally the most efficient available fossil fuel resources and infrastructure development.¹¹ CARB’s AB 32 Scoping Plan reflects these policy preferences. (California Air Resources Board, Climate Change Scoping Plan, December 2008.)

e. Energy Commission Policy on New Gas-Fired Power Plants

Implementation of the State and Energy Commission policies discussed above should result in increasing availability and flexibility of renewable generation. Gas-fired power plants such as GWF Tracy currently play a vital role in advancing the State’s climate and energy goals by displacing less-efficient generation resources and facilitating the integration of renewables into the system. However, the availability of renewable generation will increase as new projects are licensed and built and the technology develops. Efficiency and conservation measures have already had a substantial impact on California’s energy consumption, and new measures continue to be implemented. We therefore expect that the proportion of gas generation in the state’s generation mix will gradually diminish. Accordingly, we must henceforth evaluate the consistency of each proposed gas-fired power plant with these policies in order to ensure that we license only those plants which will help to reduce GHG.

In our recent decision on the Avenal Energy Project (08-AFC-1) we established a three-part test to aid in our analysis of a proposed gas-fired plant’s ability to advance the goals and policies described above. Gas-fired plants must:

- (1) not increase the overall system heat rate for natural gas plants;
- (2) not interfere with generation from existing renewable facilities nor with the integration of new renewable generation; and

¹¹ California Energy Commission 2008, *2008 Integrated Energy Policy Report Update*, (IEPR) (CEC-100-2008-008-CMF.)

- (3) reduce system-wide GHG emissions and support the goals and policies of AB 32.

We now turn to a discussion of whether, and how well, GWF Tracy would advance those goals and policies.

3. GHG Emissions During Construction of the Facility

Power plant construction involves vehicles and other equipment that emit GHG. Construction of GWF Tracy will take 20 months. GWF Tracy's construction GHG emissions are estimated to be 3,760 metric tons of CO₂-equivalent GHG during the 20-month construction period. (Ex. 200, p. 4.1-85.)

There is no adopted, enforceable federal or state LORS applicable to GWF Tracy's construction emissions of GHG. Nor is there a quantitative threshold over which GHG emissions are considered "significant" under CEQA. Nevertheless, there is guidance from regulatory agencies on how the significance of such emissions should be assessed.

For example, the most recent guidance from CARB staff recommends a "best practices" threshold for construction emissions. [CARB, Preliminary Draft Staff Proposal, Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act (Oct. 24, 2008), p. 9]. Such an approach is also recommended on an interim basis, or proposed, by major local air districts.

We understand that "best practices" includes the implementation of all feasible methods to control construction-related GHG emissions. As the "best practices" approach is currently recommended by the state agency primarily responsible not only for air quality standards but also for GHG regulation, we will use it here to assess the GHG emissions from GWF Tracy's construction.

In order to limit vehicle emissions of both criteria pollutants and GHG during construction, GWF Tracy will use (1) operational measures, such as limiting vehicle idling time and shutting down equipment when not in use; (2) regular preventive maintenance to prevent emission increases due to vehicular engine problems; and (3) use of low-emitting diesel engines meeting federal emissions standards for construction equipment, whenever available. (Ex. 200, p. 4.1-87.)

Control measures that we have adopted elsewhere in this Decision to address criteria pollutant emissions would further minimize greenhouse gas emissions to

the extent feasible. Also, the requirement that the owner use newer construction equipment will increase fuel efficiency and minimize tailpipe emissions. (see, e.g. Condition of Certification **AQ-SC5**.)

We find that the measures described above to directly and indirectly limit the emission of GHGs during the construction of the GWF Tracy Project are in accordance with current best practices. We also note that the GHG emissions anticipated from construction are minimal compared with anticipated operational emissions (potential annual GHG emissions from operation are nearly 300 times the total quantity of GHG emissions projected to be emitted during construction). We therefore find that the evidence shows that the GHG emissions from construction activities would not exceed the level of significance.

4. GHG Emissions During Operation of the Facility

a. Anticipated Emissions

The primary sources of GHG emissions during the project's operation will be the two natural gas-fired combustion turbines. There will also be a small amount of GHG emissions from the auxiliary boiler, diesel-fueled fire pump engine, emergency generator, and electrical equipment. (Ex. 200, p. 4.1-87.) The proposed project would be permitted, on an annual basis, to emit up to 1,110,229 metric tonnes of CO₂-equivalent per year if operated at its maximum permitted level of 8,639 hours. (Exs. 99, p. 2; 200, p. 4.1-88.)

The new GWF Tracy combined cycle plant would be more efficient than the Tracy Peaker Plant that it would replace, which has a GHG performance of about 0.652 MTCO₂/MWh. The GWF Tracy Project, at 0.437 to 0.474 MTCO₂/MWh, depending upon operating conditions, could easily meet the limits of SB 1368 and the Greenhouse Gas Emission Performance Standard of 0.500 MTCO₂/MWh. However, because it would reuse the existing turbines rather than replace them with new ones, the project's efficiency, while within the SB 1368 requirements, is not at the level of other projects using newer turbine technology. For example, the Avenal Energy Project has a GHG performance of 0.383 MTCO₂/MWh. (CEC Final Decision, Avenal Energy Project, Docket No. 08-AFC-1, p. 103.)

The EPS is the only GHG LORS currently applicable to GWF Tracy. Determining compliance involves only a simple comparison of the project's GHG

performance with the RPS standard. Assessing whether the Project's operational emissions are "significant" under CEQA is far more complicated.

b. Determining Significance: the Necessity of a System Approach

As we have previously noted, GHG emissions have global, rather than local, impacts. While it may be true that in general, when an agency conducts a CEQA analysis of a proposed project, it does not need to analyze how the operation of the proposed project is going to affect the entire system of projects in a large multistate region, analysis of the impacts of GHG emissions from power plants requires consideration of the project's impacts on the entire electricity system.

California's electricity system – which is actually part of a system serving the entire western region of the U.S., Canada, and Mexico – is large and complex. Hundreds of power plants, thousands of miles of transmission and distribution lines, and millions of points of electricity demand operate in an interconnected, integrated, and simultaneous fashion. Because the system is integrated, and because electricity is produced and consumed instantaneously, and will continue to be until large-scale electricity storage technologies are available, any change in demand and, most important for this analysis, any change in output from any generation source, is likely to affect the output from all generators (*Committee Guidance on Fulfilling California Environmental Quality Act Responsibilities for Greenhouse Gas Impacts in Power Plant Siting Applications*, CEC-700-2009-004, pp. 20 to 22.)¹² (Hereinafter referred to as "Committee CEQA Guidance")

The California Independent System Operator (CAISO) is responsible for operating the system so that it provides power reliably and at the lowest cost. Thus the CAISO dispatches generating facilities generally in order of cheapest to operate (i.e., typically the most efficient) to most expensive (i.e., typically the least efficient). (*Id.*, p. 20.) Because operating cost is correlated with heat rate (the amount of fuel that it takes to generate a unit of electricity), and, in turn, heat rate is directly correlated with emissions (including GHG emissions), when a power plant runs, it usually will take the place of another facility with higher emissions that otherwise would have operated. Due to the integrated nature of the electrical grid, the operational plant and the displaced plant may be hundreds of miles apart (Committee CEQA Guidance, p. 20.) Because one plant's operation could affect GHG emissions hundreds of miles away, the necessity of

¹² The report was issued in March 2009 and is found on the Commission website at: <http://www.energy.ca.gov/2009publications/CEC-700-2009-004-CEC-700-2009-004.PDF>

assessing their operational GHG emissions on a system-wide basis becomes clear.

c. GWF Tracy's Consistency with State and Energy Commission Policies on GHG Reduction

We now must determine whether or not GWF Tracy would comply with Energy Commission policies on GHG reduction as set forth in section 2 e, above.

(1) Reduction of the Overall System Heat Rate Through Displacement of More-Costly, Less-Efficient, and Higher-Emitting Power Plants

GWF Tracy will have a heat rate between 7,800 and 8,700 Btu/kWh, depending on operating conditions and the fuel being used. (Ex. 200, p. 4.1-90.) This heat rate is lower than the average of the heat rates of most other generating units in the area. (Ex. 200, Table 4, p. 4.1-91.) Even though this heat rate is higher than plants using the latest turbine technology, GWF Tracy will most likely displace one or more of the plants with higher heat rates that would have operated in the absence of GWF Tracy and reduce the GHG emissions that would have otherwise occurred. (Ex. 200, pp. 4.1-90 – 4.1-91.)

(2) Facilitating Integration of Renewable Energy Resources by Providing Flexible Capacity and Ancillary Services

Most new renewable generation in California will be wind and solar generated power. (Ex. 200, p. 4.1-91.) Unfortunately, the wind does not blow, nor does the sun shine, around the clock. As a result, in order to rely on such intermittent sources of power, utilities must have available other generating resources or significant storage that can fill the gap when renewable generation decreases (*Id.*, citing CAISO, Integration of Renewable Resources, November 2007). Until utility-scale storage of energy generated by renewables becomes feasible and cost-effective, the availability of nonrenewable generation to fill in the gaps in renewable generation will have to increase in order for the state to meet the 20 percent renewable portfolio standard. (Ex. 200, p. 4.1-92.) At this time, gas-fired plants are better able to provide intermittent generation support, grid operations support, extreme load and system emergencies support, and general energy support, as well as to meet local capacity requirements because they can be called upon whenever they are needed—they are “dispatchable.” (Committee CEQA Guidance, p. 24; Ex. 200, p. 4.1-86.)

GWF Tracy would provide flexible, dispatchable and fast ramping¹³ power that would not obstruct penetration of renewable energy because of its position in the loading order. In general, combined cycle combustion turbines can ramp up quickly, but the combined cycle facility overall output is limited to about 15 MW per minute by the steam turbine and HRSG. (Ex. 200, pp. 4.1-91 to 4.1-92.)

GWF Tracy would not, however, provide fast starting capabilities when the HRSG and steam turbine are cold.¹⁴ Intermittent renewable sources of energy would be accommodated by GWF Tracy varying its energy output as needed to integrate the renewable sources, but the lack of fast-start capabilities under all conditions make it likely that GWF Tracy may not be able to play a role in some system operating scenarios. (Ex. 200, p. 4.1-92.)

(3) Reduction of System-Wide GHG Emissions and Support of AB 32 Goals and Policies through Replacement of Generation from Out-of-State Coal Powerplants and Less Efficient in-State Powerplants

Coal-fired plants and other high-GHG resources are effectively prohibited from entering into new contracts for California deliveries as a result of the Emissions Performance Standard adopted in 2007 pursuant to SB 1368. Between now and 2020, more than 18,000 GWh of high-GHG energy procured by California utilities under existing contracts will have to be replaced. (Ex. 200, p. 4.1-93.) As these contracts expire, new and existing generation resources will replace the lost energy and capacity. Some will come from renewable generation; some will come from new and existing natural gas fired generation. (*Id.*)

The State Water Resources Control Board has proposed significant curtailment or retirements of dozens of coastal power plants that use environmentally-threatening once-through cooling systems and which, in 2008, collectively produced around 58,000 GWh, with average GHG emissions of approximately 0.75 MTCO₂/MWh. Most of these units are old and already operate at low capacity factors, perhaps reflecting their inefficiency and declining competitiveness in both the loading order and in the current electricity market. Although the timing would be uncertain, GWF Tracy will likely out-compete these

13 The CAISO categorizes *fast-ramping* as a generator capable of going from lowest power to highest in under 20 minutes, or greater than 10 MW per minute.

14 In general, fast starts are defined as being less than two hours.

aging plants, thereby displacing the energy they provide, and accelerating their retirements. (Ex. 200, p. 4.1-94.)

5. CUMULATIVE IMPACTS ON GREENHOUSE GASES

Cumulative impacts are defined as “two or more individual effects which, when considered together, are considerable or . . . compound or increase other environmental impacts.” (CEQA Guidelines § 15355.) “A cumulative impact consists of an impact that is created as a result of a combination of the project evaluated in the EIR together with other projects causing related impacts.” (CEQA Guidelines § 15130[a][1].) Such impacts may be relatively minor and incremental, yet still be significant because of the existing environmental background, particularly when one considers other closely related past, present, and reasonably foreseeable future projects.

GHG assessment is by its very nature a cumulative impact assessment. GWF Tracy would emit greenhouse gases and, therefore, we have analyzed its potential cumulative impact in the context of its effect on the electricity system, resulting GHG emissions from the system, and existing GHG regulatory requirements and GHG energy policies. The evidence supports our finding that GWF Tracy would not cause or contribute to a significant adverse cumulative impact on GHG.

FINDINGS OF FACT

1. The GHG emissions from the GWF Tracy Project construction are likely to be 3760 MTCO₂ equivalent (“MTCO₂E”) during the 20-month construction period, which is the annual equivalent of 2256 MTCO₂E.
2. There is no numerical threshold of significance under CEQA for construction-related GHG emissions.
3. GWF Tracy will use best practices to control its construction-related GHG emissions.
4. Construction-related GHG emissions are less than significant if they are controlled with best practices.
5. State government has a responsibility to ensure a reliable electricity supply, consistent with environmental, economic, and health and safety goals.

6. California utilities are obligated to meet whatever demand exists from any and all customers.
7. Under SB 1368 and implementing regulations, California's electric utilities may not enter into long-term commitments with base load power plants with CO₂ emissions that exceed the Emissions Performance Standard ("EPS") of 0.500 MTCO₂ / MWh.
8. The maximum annual CO₂ emissions from GWF Tracy's operation will be 1,110,229 MTCO₂, which constitutes an emissions performance factor of 0.474 MTCO₂ / MWh.
9. The SB 1368 EPS is the only LORS applicable to GWF Tracy's GHG emissions.
10. AB 32 requires CARB to adopt regulations that will reduce statewide GHG emissions, by the year 2020, to the 1990 level. Executive Order S-3-05 requires a further reduction, by the year 2050, to 80 percent below the 1990 level.
11. The California Renewable Portfolio Standard (RPS) requires the state's electric utilities obtain at least 33 percent of the power supplies from renewable sources, by the year 2020.
12. California's power supply loading order requires California utilities to obtain their power first from the implementation of all feasible and cost-effective energy efficiency and demand response, then from renewables and distributed generation, and finally from the most efficient available fossil-fired generation and infrastructure improvement.
13. As more renewables generation is added to the California electricity system, efficient gas-fired power plants such as GWF Tracy will help meet local capacity requirements and provide intermittent generation support, grid operations support, extreme load and system emergencies support, and general energy support.
14. There is no evidence in the record that construction or operation of GWF Tracy will be inconsistent with the loading order.
15. When it operates, GWF Tracy will have a heat rate between 7,800 – 8,700 Btu/kWh.
16. When it operates, GWF Tracy will displace generation from less-efficient (i.e., higher-heat-rate and therefore higher-GHG-emitting) power plants.

17. GWF Tracy will probably replace power from coal-fired power plants that will be unable to contract with California utilities under the SB 1368 EPS, and power plants that must be retired because they currently use once-through cooling.
18. GWF Tracy operation will reduce overall GHG emissions from the electricity system.
19. Intermittent solar and wind generation will account for most of the installation of renewables in the next few decades.
20. Intermittent generation needs support from dispatchable generation, such as GWF Tracy, in order to be integrated effectively into the electricity system.
21. GWF Tracy operation will support the addition of renewable generation into the electricity system, which will further reduce system GHG emissions.
22. The addition of some efficient, dispatchable, natural-gas-fired generation will help integrate renewables into California's electricity system and meet the state's RPS and GHG goals, but the role of gas-fired generation will diminish as technology advances, coupled with efficiency and conservation measures, make round-the-clock availability of renewables generation feasible.

CONCLUSIONS OF LAW

1. GWF Tracy's construction-related GHG emissions will not cause a significant adverse environmental impact.
2. The GHG emissions from a power plant's operation should be assessed in the context of the operation of the entire electricity system of which the plant is an integrated part.
3. GWF Tracy's operational GHG emissions will not cause a significant adverse environmental impact.
4. GWF Tracy's GHG emissions will meet or exceed the SB 1368 EPS.
5. GWF Tracy's operation will help California utilities meet their RPS obligations.
6. GWF Tracy's construction and operation will not be inconsistent with California's loading order for power supplies.

7. GWF Tracy's operation will foster the achievement of the GHG goals of AB 32 and Executive Order S-3-05.
8. The GHG emissions of any power plant must be assessed within the system on a case-by-case basis to ensure that the project will be consistent with the goals and policies enunciated above.
9. Any new natural-gas-fired power plant that we certify must:
 - not increase the overall system heat rate for natural gas plants;
 - not interfere with generation from existing renewables or with the integration of new renewable generation; and
 - have the ability to reduce system-wide GHG emissions.

B. AIR QUALITY

Operation of GWF Tracy 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.

This section examines the potential adverse impacts of criteria air pollutant emissions resulting from project construction and operation. In consultation with the local air pollution control district, the Commission determines whether the project will likely conform with applicable laws, ordinances, regulations and standards (LORS), whether it will likely result in significant air quality impacts, including violations of ambient air quality standards, and whether the project's proposed mitigation measures will likely reduce potential impacts to insignificant levels. (Ex. 200, pp. 4.1-1, 4.1-2.)

National Ambient Air Quality Standards (NAAQS) have been established for seven air contaminants identified as "criteria air pollutants." These include sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), lead (Pb), particulate matter less than 10 microns in diameter (PM₁₀) and particulate matter less than 2.5 microns in diameter (PM_{2.5}). The review of potential impacts also includes the precursor pollutants for ozone, which are nitrogen oxides (NO_x) and volatile organic compounds (VOC), and the precursors for PM₁₀ and PM_{2.5}, which are primarily NO_x, sulfur oxides (SO_x), and ammonia (NH₃). Sulfur oxides (SO_x) react in the atmosphere to form particulate matter and are major contributors to acid rain. (Ex. 6, p. 5.1-2; Ex. 200, p. 4.1-2.)

The federal Clean Air Act¹⁵ requires new major stationary sources of air pollution to comply with federal requirements in order to obtain Authority to Construct (ATC) permits. The U.S. Environmental Protection Agency (U.S. EPA), which administers the Clean Air Act, has designated all areas of the United States as attainment/unclassifiable (air quality better than the NAAQS or unable to determine) or nonattainment (worse than the NAAQS) for criteria air pollutants. The Clean Air Act also requires a periodic review of the science upon which the

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

standards are based and appropriate updates as necessary.¹⁶ (Ex. 200, **Air Quality Table 1**, p. 4.1-3.)

There are two major components of federal air pollution law: New Source Review (NSR) for evaluating new sources of pollutants that violate federal standards and Prevention of Significant Deterioration (PSD) to evaluate new sources of pollutants that do not violate federal standards. Enforcement of NSR and PSD rules is delegated to local air districts, which are established by federal and state law. (*Id.*, p. 4.1-4.) The San Joaquin Valley Air Pollution Control District (Air District or SJVAPCD) has jurisdiction in San Joaquin County and its rules apply to GWF Tracy.¹⁷ (*Id.*)

The project is also subject to the federal New Source Performance Standards (NSPS), which are generally delegated to the local air district; however, local emissions limitation rules are typically more restrictive than NSPS requirements. (*Id.*, pp 4.1-3 to 4.1-4.)

Both the U.S. EPA and the California Air Resources Board (CARB) have established allowable maximum ambient concentrations for the criteria pollutants identified above. The California Ambient Air Quality Standards (CAAQS) are more stringent than federal standards. Federal and state Ambient Air Quality Standards are shown below in Staff's **Air Quality Table 2**. (Ex. 200, p. 4.1-7.)

In addition to criteria air pollutants, the generation of electricity produces air emissions known as greenhouse gases (GHG), which contribute to the warming of the earth's atmosphere. GHGs related to combustion of natural gas include carbon dioxide, nitrous oxide (N₂O), methane (CH₄, unburned natural gas), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs) from transformers and chillers. We address GHG in a separate section of this Decision

¹⁶ Ambient Air Quality Standards are designed to protect people who are most susceptible to respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and people engaged in strenuous work or exercise. The ambient standards are also set to protect public welfare, including protection against decreased visibility, and damage to animals, crops, vegetation, and buildings. (Ex. 200, p. 4.1-6.)

¹⁷ GWF Tracy is not subject to PSD review since it is not considered a major source for any applicable PSD pollutants. (Ex. 200, Air Quality Table1, p. 4.1-3.)

SUMMARY OF THE EVIDENCE

1. Existing Ambient Air Quality

Air Quality Table 1 below summarizes the attainment status of the air quality in the San Joaquin Valley. Violations of federal and state Ambient Air Quality standards for ozone, particulate matter, and CO have occurred historically throughout the region. Since the early 1970s, substantial progress has been made toward controlling these pollutants. Although air quality improvements have occurred, violations of standards for particulate matter and ozone persist.

Air Quality Table 1
Attainment Status of San Joaquin Valley Air Pollution Control District

<i>Pollutants</i>	<i>Federal Classification</i>	<i>State Classification</i>
Ozone (1-hr)	No Federal Standard	Nonattainment (Severe)
Ozone (8-hr)	Nonattainment (Serious)^a	Nonattainment
PM10	Attainment ^b	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO₂	Attainment	Attainment
SO₂	Attainment	Attainment

Notes: ^a In April 2007, the SJVAPCD Governing Board proposed to re-classify the region as "extreme" nonattainment, and the U.S. EPA is reviewing the request. ^b In November 2008, EPA redesignated the San Joaquin Valley to attainment for the PM10 National Ambient Air Quality Standard (NAAQS) and approved the PM10 Maintenance Plan. Source: Ex. 200, **AIR QUALITY TABLE3**, p. 4.1-8

2. SJVAPCD Final Determination of Compliance

SJVAPCD released its Final Determination of Compliance (FDOC) on August 18, 2009. The FDOC contains the permit conditions specified by SJVAPCD to ensure compliance with applicable federal, state, and local air quality

requirements.¹⁸ (Ex. 204, p. 33 et seq.) SJVAPCD's Permit Conditions are incorporated into this Decision. (Cal. Code Regs, tit. 20, §§ 1744.5, 1752.3.)

3. California Environmental Quality Act (CEQA) Requirements

In addition to reviewing the Air District's requirements, the Energy Commission also evaluates potential air quality impacts according to CEQA requirements. CEQA Guidelines identify several 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.) The Guidelines note that where available, the significance criteria established by the applicable Air District may be relied upon to make a significance determination for CEQA review.

4. Ambient Air Quality

Air Quality Table 2 below summarizes the existing ambient monitoring data for nonattainment criteria pollutants collected by CARB and SJVAPCD from monitoring stations closest to the project site. Data marked in **bold** indicates that the most-stringent current standard was exceeded. According to Staff, an exceedance is not necessarily a violation of the standard, and that only persistent exceedances lead to designation of an area as nonattainment. (Ex. 200, pp. 4.1-8 to 4.1-9.)

¹⁸ The Conditions include emissions limitations, operating limitations, offset requirements, and testing, monitoring, record keeping and reporting requirements that ensure compliance with air quality LORS.

Air Quality Table 2
GWF Tracy, Summary of Highest Measured Concentrations (ppm or µg/m³)

Pollutant, Location	Averaging Time	2002	2003	2004	2005	2006	2007	2008
Ozone (ppm)	1 hour	0.107	0.103	0.109	0.099	0.121	0.097	0.123
Ozone (ppm)	8 hour	0.096	0.089	0.097	0.086	0.103	0.083	0.103
PM10 (µg/m ³)	24 hour	87	88	60	79	94.2	75.1	126.8
PM10 (µg/m ³)	Annual	35.5	28.1	28.6	28.9	33.4	27.7	N/A
PM2.5 (µg/m ³)	24 hour	64.0	45.0	41.0	63.0	47.0	61.0	85.3
PM2.5 (µg/m ³)	Annual	16.7	13.6	13.2	12.5	13.5	13.5	N/A

Notes: Ozone 2002-2004: Tracy-24371 Patterson Pass Road; 2005: Stockton-Hazelton Street; 2006-2008: Tracy-Airport. PM10 2002-2005: Stockton-Hazelton Street; 24-hr 2006-2008: Tracy-Airport; annual 2006-2008: Stockton-Hazelton Street. PM2.5 2002-2008: Stockton-Hazelton Street; except 24-hr 2007-2008: Tracy-Airport.
Source: Ex. 200, p. 4.1-9

Staff provided a detailed analysis of Ambient Air Quality Conditions in the site vicinity for ozone, PM10, PM2.5, NO₂, CO, and SO₂. (Ex. 200, pp. 4.1-9 – 4.1-12.)

The local and recent ambient air quality data show existing violations of Ambient Air Quality Standards for ozone, PM10, and PM2.5. Staff uses the highest local (Tracy or Stockton) background ambient air concentrations as the baseline in its analysis of potential ambient air quality impacts for the proposed GWF Tracy Project. Data from the nearest sites in Stockton, Tracy, and Bethel Island are used for CO, NO₂, and SO₂, respectively. The highest concentrations are shown in **Air Quality Table 3**.

Air Quality Table 3
GWF Tracy, Highest Local Background
Concentrations Used in Staff Assessment ($\mu\text{g}/\text{m}^3$)

<i>Pollutant</i>	<i>Averaging Time</i>	<i>Background</i>	<i>Limiting Standard</i>	<i>Percent of Standard</i>
PM10	24 hour	126.8	50	254
	Annual	33.4	20	167
PM2.5	24 hour	85.3	35	244
	Annual	13.5	12	113
CO	1 hour	5,039	23,000	22
	8 hour	2,634	10,000	26
NO₂	1 hour	105	339	31
	Annual	18.8	57	33
SO₂	1 hour	47.1	655	7
	24 hour	18.3	105	17
	Annual	5.2	80	7

Source: Ex. 200, p. 4.1-12.

5. Existing Setting

The existing GWF Tracy Peaker Project (TPP) consists of two stationary natural gas-fired combustion turbines (nominal 169 MW combined). Although licensed to operate up to 8,000 hours per year, TPP has only run a fraction of those hours (a hundred hours or less annually). This means that the existing emissions from TPP in the baseline conditions are much lower than those currently allowed by the Energy Commission and SJVAPCD.

The two existing combustion turbines at TPP (TPP1 and TPP2) operate on an as-needed basis, with an annual capacity factor of less than about 5 percent for each year since coming online in 2003 (CEC Docket 01-AFC-16C). **Air Quality Table 4** shows the allowable (permitted) emissions from TPP and the historic actual NO_x emissions reported to the Energy Commission as part of compliance monitoring between 2006 and 2008. Data for pollutants other than NO_x was not readily available.

Air Quality Table 4
Existing TPP, Allowable Emissions and Actual Emissions (lb/yr)

Source	NOx	VOC	PM10/ PM2.5	CO	SOx
Existing TPP Allowable Emissions	306,920	26,712	53,334	143,240	11,200
Existing TPP1 (Actual) ¹	1,435	N/A	N/A	N/A	N/A
Existing TPP2 (Actual) ¹	1,342	N/A	N/A	N/A	N/A
Existing Standby Generator ²	75	N/A	N/A	N/A	N/A
Existing TPP Average Actual Emissions ²	3,498	N/A	N/A	N/A	N/A

Source: AFC **TABLE 5.1-23** (GWF2008a) and CEC Order No. 03-0723-07 (July 2003) Note 1: from operating data submitted to CEC (01-AFC-16C) from 1Q 2006 to 2Q 2008. Note 2: from Attachment I of FDOC (Ex. 204). Total emissions differ because different data sources and years shown.

Source: Ex. 200, p. 4.1-13

The existing TPP was approved in a 2002 Energy Commission Decision that required mitigation for the construction and maximum potential operational emissions originally forecasted to occur with TPP. Original Conditions of Certification **AQ-C4** and **AQ-62** required the TPP project owner to accumulate Emission Reduction Credits (ERCs) and surrender them to offset TPP's potential emission increases. In addition to surrendering ERCs, the original Condition of Certification **AQ-78** required implementing a program of local particulate matter and ozone precursor emission reductions. **Air Quality Table 5** shows the mitigation required by the original Conditions of Certification, and **Air Quality Tables 6a to 6e** summarize the face value of the ERC certificates that were surrendered by GWF in 2003 to satisfy the original licensing requirements for TPP.

Air Quality Table 5
Existing TPP, Original Mitigation Requirements (lb)

Pollutant	Original Condition of Certification	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)	Total (lb/yr)
NOx	AQ-62	71,730	71,730	71,730	71,730	286,920
VOC	AQ-C4	5,000	5,000	5,000	5,000	26,712
	AQ-62	1,678	1,678	1,678	1,678	
PM10	AQ-C4	7,300	7,300	7,300	7,300	53,336
	AQ-62	6,034	6,034	6,034	6,034	
CO	AQ-C4	35,768	35,768	35,852	35,852	143,240
SO ₂	AQ-C4	2,800	2,800	2,800	2,800	11,200

Source: Ex. 200, p. 4.1-14

Air Quality Table 6a
Existing TPP, NOx Mitigation Provided (lb)

Name of Offset / Site of Reduction	ERC Number	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
757 E 11 th St, Tracy	N-244-2			38,207	
757 E 11 th St, Tracy	N-304-2			22,593	
757 E 11 th St, Tracy	N-305-2			23,942	49
757 E 11 th St, Tracy	N-306-2	1,400	1,400	23,000	1,800
757 E 11 th St, Tracy	N-307-2	30	56	453	49
29400 Whitesbridge, Mendota	C-458-2		1,408	23,410	2,563
Elk Hills, S35, T30S, R23E	S-1618-2	39,452	39,890	40,329	40,329
NOx Mitigation Provided Total (lb)		300,360			
NOx Offsets Required for TPP		286,920			

Source: Ex. 200, pp. 4.1-14 to 4.1-16

Air Quality Table 6b
Existing TPP, VOC Mitigation Provided (lb)

Name of Offset / Site of Reduction	ERC Number	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
757 E 11 th St, Tracy	N-302-1	8,020	8,020	8,020	8,020
VOC Mitigation Provided Total (lb)		32,080			
VOC Offsets Required for TPP		26,712			

Source: Ex. 200, pp. 4.1-14 to 4.1-16

**Air Quality Table 6c
Existing TPP, PM10 Mitigation Provided (lb)**

Name of Offset / Site of Reduction	ERC Number	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
Third & C St, Turlock	N-226-4	3,855	3,625	2,906	3,860
4004 S Eldorado St, Stockton	N-282-4	20,406	19,910	16,368	16,509
757 E 11 th St, Tracy	N-306-4	302	308	4,900	391
757 E 11 th St, Tracy	N-307-4			52	
PM10 Mitigation Provided Total (lb)		93,392			
PM10 Offsets Required for TPP		53,336			

Source: Ex. 200, pp. 4.1-14 to 4.1-16

**Air Quality Table 6d
Existing TPP, CO Mitigation Provided (lb)**

Name of Offset / Site of Reduction	ERC Number	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
18800 Spreckels Blvd, Manteca	N-289-3	35,768	35,768	35,852	35,852
CO Mitigation Provided Total (lb)		143,240			
CO Offsets Required for TPP		143,240			

Source: Ex. 200, pp. 4.1-14 to 4.1-16

**Air Quality Table 6e
Existing TPP, SOx Mitigation Provided (lb)**

Name of Offset / Site of Reduction	ERC Number	Q1 (lb/qtr)	Q2 (lb/qtr)	Q3 (lb/qtr)	Q4 (lb/qtr)
800 W Church St, Stockton	N-294-5	2,800	2,800	2,800	2,800
SOx Mitigation Provided Total (lb)		11,200			
SOx Offsets Required for TPP		11,200			

Source: Ex. 200, pp. 4.1-14 to 4.1-16

6. Construction Impacts

Construction of GWF Tracy is expected to take about 22 months including 20 months of demolition and construction activity and the remainder of the time for contractor mobilization and commissioning. During the construction period, air emissions would be generated from the exhaust of off-road and on-road vehicles and fugitive dust from activity on unpaved surfaces and material handling. Construction activities would typically occur between 6 a.m. and 6 p.m., Monday through Saturday. (Ex. 200, pp. 4.1-16 to 4.1-17.)

The air quality impacts are modeled using the U.S EPA AERMOD (version 07026), and NO_x impacts are modeled using the AERMOD OLM option, which determines the fraction of NO_x emissions that convert to short-term (1-hour) NO₂ impacts. The AFC version of the dispersion modeling used source factors (that allow variation of emissions by hour-of-day) to erroneously set emissions to zero for some hours of the year in the evaluation for annual averaging periods (GWF2008c). This caused the Applicant to underestimate the construction impacts during annual averaging periods. To correct this, Staff removed the hour-of-day source factors and re-evaluated the annual construction impacts. Applicant did not contest Staff's correction of the impact calculations. (Ex. 93, p. 1.)

The evidence shows that the maximum modeled project construction impacts for particulate matter (24-hour basis) are predicted to occur at the northern and western fence line, and concentrations would decrease rapidly with distance. The maximum concentration at any location one kilometer (0.62 mile) from the site would be about one-tenth of that experienced at the fence line or 2.4 µg/m³ PM₁₀; at the nearest residence, 0.6 kilometer (0.4 mile) due west, construction would cause no more than about 5 µg/m³ PM₁₀ or 2.6 µg/m³ PM_{2.5} (24-hour basis). No residential receptors exist at the fence line.

We find first that particulate matter emissions from construction would cause a significant impact because they will contribute to existing violations of PM₁₀ and PM_{2.5} Ambient Air Quality Standards, and second that those impacts can and should be mitigated to a level of insignificance. Significant secondary impacts would also occur for PM₁₀, PM_{2.5}, and ozone because construction-phase emissions of particulate matter precursors (including SO_x) and ozone precursors (NO_x and VOC) would also contribute to existing violations of these standards. The direct impacts of NO₂, in conjunction with worst-case background conditions, would not create a new violation of the 1-hour or annual NO₂ Ambient Air Quality Standard. The direct impacts of CO and SO₂ would not be significant because construction of the project would neither cause nor contribute to a violation of these standards. Mitigation for construction emissions of PM₁₀, PM_{2.5}, SO_x, NO_x, and VOC would be appropriate for reducing impacts to PM₁₀, PM_{2.5}, and ozone.

GWF proposes to reduce emissions of particulate matter, particulate matter precursors, and ozone precursors by complying with local air district recommendations, soil erosion control requirements, and nuisance prohibitions.

GWF proposes to implement the following measures to control construction-related fugitive dust emissions:

- Water unpaved roads and disturbed areas;
- Limit onsite vehicle speeds to 10 miles per hour and post the speed limit;
- Water during period of high winds when excavation/grading is occurring;
- Sweep on-site paved roads and entrance roads on an as-needed basis;
- Replace ground cover in disturbed areas as soon as practical;
- Cover truck loads when hauling material that could be entrained during transit; and
- Apply dust suppressants or covers to soil stockpiles and disturbed areas when inactive for more than two weeks. (Ex. 6, p. 5.1.-40.)

GWF Tracy also proposes to reduce emissions with the following measures to control exhaust emissions from the heavy equipment used for construction:

- Use ultra-low sulfur diesel fuel (15 ppm sulfur) in all diesel fueled equipment;
- Maintain all diesel fueled equipment per manufacturer's recommendations;
- Limit diesel heavy equipment idling time to less than five minutes, to the extent practical; and
- Use electric motors for construction equipment to the extent feasible. (*Id.*)

We agree with Staff that the Applicant's proposed mitigation measures would be effective, and also agree with Staff that additional construction mitigation measures could reduce potential impacts even more.

We adopt Conditions of Certification **AQ-SC1** through **AQ-SC5** to implement these measures. These Conditions are consistent with both GWF's proposed mitigation and the Conditions of Certification adopted in similar prior licensing cases. Compliance with these Conditions would substantially eliminate the potential for significant air quality impacts during construction of the GWF Tracy Project.

7. Operation Impacts

As we have previously noted, the TPP was licensed to operate up to 8,000 hours annually but has actually operated fewer than 100 hours annually. However, the owner provided mitigation for 8,000 hours of annual operation at the time of licensing in 2002. Under CEQA, it is necessary to determine the baseline, or existing condition, at the proposed site in order to determine whether the

proposed project would significantly change conditions from the baseline and could thus have a significant adverse impact. At first blush, it might appear that the baseline at the proposed site for GWF Tracy is the existing emissions produced by the TPP. If this were the case, it would appear that by going from 100 hours of annual operation to over 8,000, there would be a significant, and probably adverse, impact from operation of GWF Tracy. However, the recent case of *Communities for a Better Environment v. South Coast Air Quality Management District*, 158 Cal. App. 4th 1336 (2008), clearly established that the baseline for purposes of environmental review may be the level of emissions allowed by existing permits so long as the permitted amount had received appropriate environmental review at the time the permit was issued. TPP received full environmental review before this Commission prior to its licensure in 2002. Therefore, we find that the baseline for air emissions for the proposed GWF Tracy Project is the emissions that would have resulted from operation of the TPP at 8,000 hours annually. It follows that the emissions offsets put in place at that time may also be relied upon by the Applicant, as those offsets have not yet served their purpose of offsetting project emissions. To find otherwise would, in effect, penalize GWF for having operated TPP at a low capacity factor.

The evidence shows that particulate matter emissions from routine operation of GWF Tracy would cause a significant impact because they will contribute to existing violations of PM10 and PM2.5 Ambient Air Quality Standards. (Ex. 200, **Table 18**, p. 4.1-28.) Significant secondary impacts would also occur for PM10, PM2.5, and ozone because operational emissions of particulate matter precursors (including SO_x) and ozone precursors (NO_x and VOC) would also contribute to existing violations of these standards. The direct impacts of NO₂, in conjunction with worst-case background conditions, would not create a new violation of the 1-hour or annual NO₂ Ambient Air Quality Standard. The NO₂ impacts would be primarily driven by startup modes or the emergency generator and fire pump engines. The maximum 1-hour NO₂ impacts determined from the turbines in steady state mode would be less than 20 µg/m³, compared to approximately 219 µg/m³ for the turbines in a simultaneous startup.

However, using actual concurrent hourly NO₂ background concentration data rather than using the worst-case background concentration would result in lower total project impacts. Using this methodology, the direct impacts of CO and SO₂ would not be significant because routine operation of the project would neither cause nor contribute to a violation of these standards. Mitigation for emissions of PM10, PM2.5, SO_x, NO_x, and VOC would be appropriate for reducing impacts to PM10, PM2.5, and ozone. (Ex. 200, p. 4.1-29.)

The evidence also shows that the project's emissions of NO_x, SO_x, VOC and ammonia would create secondary pollutant impacts in the form of ozone, PM10 and PM2.5. (*Id.*) The project would also have impacts during periods when fumigation conditions exist and during commissioning activities. There would be no adverse visibility impacts from project emissions because the nearest Class I areas are Point Reyes National Seashore, 66 miles away, Pinnacles National Monument, 84 miles away, and Yosemite National Park, 100 miles away. All of these Class I areas are too far from GWF Tracy to suffer adverse visibility impacts caused by project emissions. (Ex. 200, p. 4.1-30.)

8. Mitigation for Operational Emissions

The GWF Tracy Project would rely upon a combination of clean-fuel-firing equipment, emission control devices, and emission reduction credits to mitigate air quality impacts. The equipment description, equipment operation, and emission control devices are provided in the **Project Description** section of this Decision.

In addition to the emission controls and offsets described in the GWF Tracy AFC and required by SJVAPCD rules, the evidence shows that the Applicant has also entered into an Air Quality Mitigation Settlement Agreement with SJVAPCD that includes an air quality improvement program. (Ex. 200, p. 4.1-30.) GWF and the SJVAPCD agreed on March 19, 2009 to have GWF provide an additional \$319,000 in a mitigation fee. The mitigation fee would be used to implement measures selected by the SJVAPCD including: heavy-duty engine retrofit/replacement and agricultural engine replacement programs, with a preference to programs in or near the City of Tracy, San Joaquin County, and the Northern Region of the San Joaquin Valley Air Basin, in that order. The SJVAPCD views the agreement and the air quality improvement program as a community benefit. The agreement is not designed to provide CEQA mitigation. While the air quality improvement program measures are commendable, we neither approve nor oppose this agreement. Our review focuses on mitigation of impacts under CEQA.

a. Emission Controls

The combustion turbines limit NO_x formed during combustion using dry low-NO_x (DLN) combustors. Compared to steam or water-injection designs, combustors designed for low-NO_x firing maintain low temperatures, thus minimizing NO_x

formation, while thermal efficiencies remain high. To further reduce the emissions from the combustion turbines before they are exhausted into the atmosphere, flue gas controls, primarily catalyst systems, would be installed in the new HRSGs. GWF proposes to install two new, more efficient catalyst systems for each combustion turbine: the SCR system to reduce NO_x; and the oxidation catalyst system to reduce CO and VOC. Operating exclusively on pipeline quality natural gas limits SO_x and particulate matter emissions.

GWF Tracy will use an air cooled condenser (dry cooling design), eliminating the need for a large cooling tower, which would otherwise be a source of particulate matter drift or mist. The new auxiliary boiler will include ultra-low-NO_x burners to achieve the District's limits. The existing standby generator engine meets U.S. EPA Tier 2 standards, and the new fire pump engine will achieve the equivalent of the more-stringent U.S. EPA Tier 3 standards. Non-emergency hours of operation would be limited to 50 hours or less per year.

b. Emission Offsets

In addition to emission control strategies included in the project design, GWF Tracy proposes to rely upon emission reduction credits (ERCs) surrendered in 2003 and two valid ERCs for CO and SO_x (N-320-3 and N-575-5) to offset new emissions. SJVAPCD Rule 2201 requires GWF to offset any net emissions increases of NO_x, VOC, and PM₁₀ based on a comparison of the pre-project and post-project potential-to-emit. (Ex. 204, *Final Determination of Compliance*, pp. 40 to 62.) This requirement was in place at the time of the original TPP licensing, and the original TPP was permitted to emit much greater quantities of NO_x than the current proposal for the combined-cycle project. As a result of the requirements in Rule 2201 and the original Energy Commission Conditions of Certification for TPP, mitigation was provided in the form of offsets for the originally permitted TPP emission limits. The SJVAPCD considers each of the existing TPP turbines to be a "Clean Emission Unit" and finds that no new offsets would be required by Rule 2201 for the proposed project's NO_x emissions and that, by reducing the potential emissions of NO_x, the proposed project would create a "netting" action so that no additional SJVAPCD emission reduction credits would need to be surrendered for VOC or PM₁₀ (*Id.*). The two valid ERCs for CO and SO_x would be used by GWF voluntarily because the SJVAPCD does not require offsets for CO or SO_x under Rule 2201.

Air Quality Table 7 summarizes the proposed mitigation for GWF Tracy, which relies completely on the mitigation provided when the TPP was originally

permitted. The mitigation provided for the original TPP is summarized above in **Air Quality Tables 6a to 6e**. The SJVAPCD and the Energy Commission required the surrender of emission reduction credits for all original TPP potential emissions. Because the original TPP was recently fully offset, GWF’s proposed mitigation for the combined-cycle project is already in place.

**Air Quality Table 7
GWF Tracy, Mitigation of Proposed Emissions (lb)**

Source / Reduction	ERC Number	NOx	VOC	PM10/ PM2.5	CO	SOx
Proposed GWF Tracy Annual Emissions	---	180,572	31,997	66,995	161,858	14,406
Existing TPP Mitigation Offsets Provided	See AQ Tables 10a-10e	300,360	32,080	93,392	143,240	11,200
18800 Spreckels Blvd, Manteca	N-320-3	---	---	---	214,416	---
800 W. Church St, Stockton	N-575-5	---	---	---	---	200,000
Surplus (Deficit)		119,788	83	26,397	195,798	196,794
Fully Offset?		Yes	Yes	Yes	N/A ^a	Yes

Notes: a. Proposed emissions of CO would not contribute to a significant impact and, therefore, would not require mitigation. Source: Ex. 200, **TABLE 20**, p. 4.1-32.

i. Emission Offsets for Ozone Impact

Both NO_x and VOC emissions are recognized precursors to the formation of ambient ozone, and NO_x is also a recognized precursor to the formation of the nitrate fraction of fine particulate matter. The ERCs surrendered in 2003 were for a face value of sufficient NO_x and VOC reductions to exceed the currently proposed potential emissions for the combined-cycle project. Those ERCs help offset the potential environmental impacts caused by GWF Tracy, but according to the District they are not usable for any other purpose or any other project because they were made invalid for future District transactions when GWF surrendered them. We describe how the proposed project satisfies District requirements in the Compliance with LORS section of this chapter.

According to the FDOC, GWF Tracy would be in compliance with the District’s NO_x and VOC offset requirements. **Air Quality Table 7** shows that the overall total existing TPP mitigation was provided at an offset ratio of greater than one-

to-one, which satisfies the mitigation requirements for ozone impacts as established by Energy Commission staff.

ii. Emission Offsets for Particulate Matter Impact

Air Quality Table 7 summarizes how existing TPP mitigation would apply to the combined-cycle project PM10/PM2.5 impacts. The ERCs surrendered in 2003 were for a face value of sufficient PM10 reductions to exceed the currently proposed potential emissions for the combined-cycle project. Mitigation provided by GWF for TPP's PM10 provided sufficient reductions to offset proposed emission increases of PM10, and proposed emission increases of SO_x would be offset by mitigation provided by GWF for TPP's PM10 and NO_x. GWF additionally proposes to surrender offsets of SO_x represented by ERC N-575-5, as shown in **Table 7**, in order to ensure total mitigation of this precursor to PM10/PM2.5. We adopt Condition of Certification **AQ-SC7** to ensure that all potential increases of SO_x are offset with the valid ERC.

NO_x is a notable precursor of PM10 and PM2.5 formation because it reacts with ammonia to form ammonium nitrates. The proposed project would substantially reduce the potential NO_x emissions below the levels of the existing TPP turbines, and the District values this reduction by considering an interpollutant offset ratio (District Rule 2201, Section 4.13.3). The SJVACPD can approve interpollutant trading ratios on a case-by-case basis, and the FDOC establishes a ratio of 2.629-to-one for NO_x reductions-to-PM10 increases. Although the discussion above describes how TPP's PM10 mitigation was sufficient to offset the proposed project's PM10, the interpollutant analysis from the SJVAPCD provides further justification for the use of these NO_x reductions to offset PM10/PM2.5 impacts. The current Rule 2201 requirements for PM10 increases are discussed further in the Compliance with LORS section of this chapter.

According to the FDOC, GWF would be in compliance with the District's PM10 offset requirements. The evidence shows that the overall total existing TPP mitigation for PM10/PM2.5 precursors was provided at an offset ratio of greater than one-to-one, which satisfies the mitigation requirements for particulate matter impacts as established by Energy Commission staff. (Ex. 200, p. 4.1-33; Ex. 204.)

c. Adequacy of Proposed Mitigation

The TPP offsets shown in **Air Quality Tables 6a to 6e** and **Air Quality Table 7** were in quantities sufficient to offset GWF Tracy's proposed NO_x, VOC, PM10/PM2.5, and SO_x emissions, per District requirements and Energy Commission staff's significance criteria. We find that the offset package would mitigate all project air quality impacts to a less than significant level. We adopt Conditions of Certification **AQ-SC6**, **AQ-SC7**, and **AQ-SC8** to ensure that GWF's proposed offsets for CO and SO_x are surrendered, and to ensure ongoing compliance through quarterly reports, respectively.

Our approval of the emissions offset package for GWF Tracy applies only to this particular AFC and does not in any way constitute a precedent for the acceptance of offset proposals for any other current or future licensing cases.

9. Cumulative Impacts and Mitigation

"Cumulative impacts" are defined as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts" (CEQA Guidelines, §15355). Such impacts can be relatively minor and incremental yet still be significant because of the existing environmental background, particularly when considering other closely related past, present, and reasonably foreseeable future projects.

Criteria pollutants have impacts that are usually (though not always) cumulative by their nature. Rarely will a project itself cause a violation of a federal or state criteria pollutant standard. However, many new sources contribute to violations of criteria pollutant standards because of elevated background conditions. Air districts attempt to reduce background criteria pollutant levels by adopting attainment plans, which are multi-faceted programmatic approaches to attainment. Attainment plans typically include new source review requirements that provide offsets and use Best Available Control Technology, combined with more stringent emissions controls on existing sources.

The discussion of cumulative air quality impacts includes the following three analyses:

- A summary of projections for criteria pollutants by the air district and the air district's programmatic efforts to abate such pollution;
- An analysis of the project's "localized cumulative impacts" direct emissions locally when combined with other local major emission sources; and

- A discussion of greenhouse gas emissions and global climate change impacts in the **Greenhouse Gases** section of this Decision.

a. Ozone

The District's **2007 Ozone Plan** to attain the federal 8-hour ozone standard was approved by ARB on June 14, 2007. This plan would reduce ozone and particulate matter levels in the region, primarily by achieving a 75 percent reduction in NO_x emissions by 2023. The plan relies on four main approaches: tighter district regulations for stationary sources, wider use of incentive-based measures (similar to the Carl Moyer Program) to accelerate deployment of cleaner sources, new "innovative" programs for trip-reduction and energy conservation, and expanded controls on mobile source tailpipe emissions. (Ex. 200, pp. 4.1-34 to 4.1-35.)

The GWF Tracy Project is subject to District rules and regulations that specify performance standards, offset requirements, and emission control requirements for stationary sources and include requirements for obtaining Authority to Construct (ATC) permits and subsequent operating permits.

The SJVAPCD originally required GWF to surrender offsets to ensure that the Tracy Peaker Project caused "no net increase" to emissions in the region. The proposed project would reduce the potential NO_x emissions from the existing turbines below the permitted amounts (Ex. 204, p. 49). The FDOC shows that GWF Tracy would satisfy the current offset requirements of Rule 2201. (*Id.* at 50.) This evidence is sufficient to allow us to conclude that GWF Tracy would not be likely to conflict with regional ozone attainment goals.

b. Particulate Matter

The District's 2007 PM₁₀ Maintenance Plan includes a request for reclassification to "attainment" for the federal PM₁₀ standard, and provides for continued attainment for 10 years from the designation. In November 2008, after this AFC was filed, the U.S. EPA reclassified the SJVAPCD to attainment for the federal PM₁₀ standard. (Ex. 200, p. 4.1-35.)

The District's 2008 PM_{2.5} Plan shows that emission reductions of NO_x, directly emitted PM_{2.5}, and SO₂ are needed to demonstrate attainment of the PM_{2.5}

NAAQS in the San Joaquin Valley (p. 6-1 of plan). The SJVAPCD determined that by reducing potential emissions of NO_x below the TPP's permitted levels, and by conducting a debit transaction for VOC and PM10 in the District's federal offset equivalency tracking program that ensures offsetting occurs in a manner at least as stringent as the federal requirements, the project would comply with PM10 offset requirements. (Ex. 204). On the basis of this evidence, we conclude that GWF Tracy would not cause an unmitigated cumulative impact upon regional particulate matter attainment goals.

c. Localized Cumulative Impacts

The proposed project and other reasonably foreseeable projects could cause impacts that would be locally combined if present and future projects would introduce stationary sources that are not included in the "background" conditions. Reasonably foreseeable future projects are those that are either currently under construction or in the process of being approved by a local air district or municipality. Projects that have not yet entered the approval process do not normally qualify as "foreseeable" since the detailed information needed to conduct this analysis is not available. Sources that are presently operational are included in the background concentrations. Background conditions also take into account the effects of mobile sources.

Staff considered projects with stationary sources located up to six miles from the proposed project site. GWF requested that the SJVAPCD and the neighboring Bay Area Air Quality Management District (BAAQMD) identify potential new stationary sources within six miles. (Ex. 61, Response to DR 15.) The SJVAPCD reported 37 facilities with pending changes, with most having the potential to emit fewer than 10 pounds per day of any contaminant or exclusively VOC. (Ex. 61, Table DR 15-1.)

The maximum modeled cumulative impacts were conservatively estimated by adding the maximum modeled impact to the existing maximum background pollutant levels. The results are shown below in **Air Quality Table 8**.

Air Quality Table 8
GWF Tracy, Ambient Air Quality Impacts from Cumulative Sources ($\mu\text{g}/\text{m}^3$)

<i>Pollutant</i>	<i>Averaging Time</i>	<i>Modeled Impact</i>	<i>Background</i>	<i>Total Impact</i>	<i>Limiting Standard</i>	<i>Percent of Standard</i>
PM10	24 hour	5.3	126.8	132.1	50	264
	Annual	0.6	33.4	34	20	170
PM2.5	24 hour	5.3	85.3	90.6	35	259
	Annual	0.6	13.5	14.1	12	118
CO	1 hour	1,040	5,039	6,079	23,000	26
	8 hour	132	2,634	2,766	10,000	28
NO₂	1 hour ^a	223.1	105	328	339	97
	Annual	1.54	18.8	20.3	57	36
SO₂	1 hour	12.5	47.1	59.6	655	9
	24 hour	0.9	18.3	19.2	105	18
	Annual	0.1	5.2	5.3	80	7

Short-term impacts include fire pump and emergency standby generator engine testing. Notes: a. The maximum 1-hour NO₂ concentration is based on AERMOD OLM output. Source: Ex. 200, p. 4.1-37.

The evidence shows that particulate matter emissions from GWF Tracy would be cumulatively considerable because they would contribute to existing violations of the PM10 and PM2.5 Ambient Air Quality Standards. Secondary impacts would also be cumulatively considerable for PM10, PM2.5, and ozone because emissions of particulate matter precursors (including SO_x) and ozone precursors (NO_x and VOC) would contribute to existing violations of the PM10, PM2.5, and ozone standards. The mitigation provided for TPP particulate matter and ozone impacts would offset GWF Tracy's contributions to all nonattainment pollutants and their precursors at a minimum ratio of one-to-one. On the basis of the evidence, we conclude that GWF Tracy would not cause an unmitigated cumulative impact upon local air quality.

10. Compliance with LORS

The FDOC was dated August 18, 2009. (Ex. 204.) Compliance with all District Rules and Regulations was demonstrated to the District's satisfaction in the FDOC, and the FDOC Conditions are included in the Conditions of Certification we adopt in this Decision. The FDOC also demonstrates compliance with all applicable Federal, State, and local LORS to the satisfaction of the District. Of particular interest is the District's determination of the project's compliance with

District Rules 2201 and 2301, New Source Review and Offsets, since it involves use of NO_x ERCs that were surrendered in 2003 in connection with TPP.

According to the FDOC, the original ERCs surrendered for TPP no longer exist for purposes of New Source Review compliance because, in 2003, the District determined that surrender of the original ERCs rendered them invalid for use in further District permitting. (Ex. 200, p. 4.1-39.) Those ERCs may have come from older sources that would be subject to more-stringent control today, and therefore potentially subject to adjustment for consistency with currently-applicable air district rules. However, the TPP was built recently enough to meet the District's current "Clean Emission Unit" standards. With this designation, District Rule 2201 allows the GWF Tracy Combined Cycle Power Plant Project to create a net decrease in its potential NO_x emissions that in turn satisfies District offsetting requirements for its proposed VOC and PM10 increases. A separate transaction to debit VOC and PM10 from the District's "offset equivalency tracking system" was necessary for the District's netting to satisfy U.S. EPA requirements. (*Id.* p. 4.1-40.)

On the basis of the evidence and the above discussion, we find that GWF Tracy, if constructed and operated in a manner consistent with the Conditions of Certification set forth in this Decision, would comply with all applicable LORS pertaining to Air Quality.

We have considered the agency and public comments summarized in the FSA in preparing this Decision. (Ex. 200, p. 4.1-40.)

FINDINGS OF FACT

Based on the weight of the evidence, 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 seven air contaminants identified as criteria air pollutants, including sulfur dioxide (SO₂), carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), lead (Pb), particulate matter less than 10 microns in diameter (PM10) and particulate matter less than 2.5 microns in diameter (PM2.5).
2. Construction and operation of GWF Tracy will result in emissions of criteria air pollutants and their precursors.

3. GWF Tracy is located in San Joaquin County within the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).
4. SJVAPCD is a nonattainment area for state and federal ozone standards, and the state PM10 and state and federal PM2.5 standards.
5. Potential impacts from power plant construction-related activities will be mitigated to insignificant levels with implementation of a Construction Mitigation Plan that specifies fugitive dust control, dust plume control, diesel particulate reduction and other measures.
6. GWF Tracy has the potential to exacerbate existing violations of the 24-hour and annual PM10 and PM2.5 standards resulting in significant direct impacts to air quality in the project vicinity.
7. Project emissions of NO_x, SO₂, and VOCs, which are precursor pollutants, have the potential to result in significant secondary impacts to ambient concentrations of ozone, PM10, and PM2.5.
8. The project owner will employ the best available control technology (BACT) to limit pollutant emissions.
9. SJVAPCD issued a Final Determination of Compliance that finds GWF Tracy will comply with all applicable District rules for project operation.
10. The project owner will provide sufficient Emission Reduction Credits (ERCs or offsets) to offset pollutants as required by SJVAPCD rules and regulations.
11. In addition to compliance with applicable SJVAPCD rules, the project is subject to CEQA review, which indicates that project emissions of PM and SO_x as a PM precursor, will contribute to background PM10 and PM2.5 concentrations that exceed Ambient Air Quality Standards.
12. Mobile sources were included in the cumulative impacts analysis using past background concentrations, which represent the worst-case mobile sources.

CONCLUSIONS OF LAW

1. The use of ERC's surrendered for TPP complies with District rules and regulations and will mitigation GWF Tracy operations emissions to below the level of significance.
2. GWF Tracy's construction and operations emissions will not contribute to a cumulatively considerable adverse impact on air quality.
3. Implementation of all the Conditions of Certification, listed below, ensures that, if certified, the GWF Tracy will be mitigated sufficiently to avoid any direct, indirect, or cumulative significant adverse impacts to air quality.

4. The Commission therefore concludes that implementation of the Conditions of Certification, below, will ensure that GWF Tracy conforms 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-SC1 Air Quality Construction Mitigation Manager (AQCMM): The project owner shall designate and retain an on-site AQCMM who shall be responsible for directing and documenting compliance with Conditions **AQ-SC3**, **AQ-SC4** and **AQ-SC5** for the entire project site and linear facility construction. The on-site AQCMM may delegate responsibilities to one or more AQCMM delegates. The AQCMM and AQCMM delegates shall have full access to all areas of construction on the project site and linear facilities, and shall have the authority to stop any or all construction activities as warranted by applicable construction mitigation Conditions. The AQCMM and AQCMM delegates may have other responsibilities in addition to those described in this Condition. The AQCMM shall not be terminated without written consent of the construction project manager (CPM).

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

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

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

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

- A. All unpaved roads and disturbed areas in the project and linear construction sites shall be watered as frequently as necessary to comply with the dust mitigation objectives of **AQ-SC4**. The frequency of watering may be either reduced or eliminated during periods of precipitation.
- B. No vehicle shall exceed 15 miles per hour within the construction site.
- C. The construction site entrances shall be posted with visible speed limit signs.
- D. All construction equipment vehicle tires shall be inspected and washed as necessary to be free of dirt prior to entering paved roadways.
- E. Gravel ramps of at least 20 feet in length must be provided at the tire washing/cleaning station.
- F. All unpaved exits from the construction site shall be graveled or treated to prevent track-out to public roadways.
- G. All construction vehicles shall enter the construction site through the treated entrance roadways unless an alternative route has been submitted to and approved by the CPM.
- H. Construction areas adjacent to any paved roadway shall be provided with sandbags or other measures as specified in the Storm Water Pollution Prevention Plan (SWPPP) to prevent run-off to roadways.
- I. All paved roads within the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs to prevent the accumulation of dirt and debris.
- J. At least the first 500 feet of any public roadway exiting from the construction site shall be swept at least twice daily (or less during periods of precipitation) on days when construction activity occurs or on any other day when dirt or run-off from the construction site is visible on the public roadways.
- K. All soil storage piles and disturbed areas that remain inactive for longer than 10 days shall be covered or treated with appropriate dust suppressant compounds.
- L. All vehicles that are used to transport solid bulk material on public roadways and that have the potential to cause visible emissions

shall be provided with a cover, or the materials shall be sufficiently wetted and loaded onto the trucks to provide at least two feet of freeboard.

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

Verification: The project owner shall include in the MCR: (1) a summary of all actions taken to maintain compliance with this Condition; (2) copies of any complaints filed with the air district in relation to project construction; and (3) any other documentation deemed necessary by the CPM and AQCMM to verify compliance with this Condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC4 Dust Plume Response Requirement: The AQCMM or an AQCMM delegate shall monitor all construction activities for visible dust plumes. Observations of visible dust plumes with the potential to be transported off the project site, 200 feet beyond the centerline of the construction of linear facilities, or within 100 feet upwind of any regularly occupied structures not owned by the project owner indicate that existing mitigation measures are not providing effective mitigation. The AQCMM or delegate shall then implement the following procedures for additional mitigation measures in the event that such visible dust plumes are observed.

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

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

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

Verification: The AQCMP shall include a section detailing how additional mitigation measures will be accomplished within specified time limits.

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

- A. All diesel-fueled engines used in the construction of the facility shall have clearly visible tags issued by the on-site AQCMM showing that the engine meets the Conditions set forth herein.
- B. All construction diesel engines with a rating of 100 hp or higher shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines, as specified in California Code of Regulations, Title 13, section 2423(b)(1), unless certified by the on-site AQCMM that such engine is not available for a particular item of equipment. In the event that a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a Tier 1 engine. In the event a Tier 1 engine is not available for any off-road engine larger than 100 hp, that engine shall be equipped with a diesel particulate filter (DPF) unless certified by engine manufacturers or the on-site AQCMM that the use of such devices is not practical for specific engine types. For purposes of this condition, the use of such devices is “not practical” for the following, as well as other, reasons.
 - 1. There is no available DPF that has been verified by either the California Air Resources Board or U.S. Environmental Protection Agency for the engine in question; or
 - 2. The construction equipment is intended to be on site for 10 days or less.
 - 3. The CPM may grant relief from this requirement if the AQCMM can demonstrate a good faith effort to comply with this requirement and that compliance is not possible.
- C. The use of a soot filter may be terminated immediately if one of the following conditions exists, provided that the CPM is informed within 10 working days of the termination:
 - 1. The use of the soot filter is excessively reducing the normal availability of the construction equipment due to increased down time for maintenance, and/or reduced power output due to an excessive increase in back pressure.

2. The soot filter is causing or is reasonably expected to cause significant engine damage.
 3. The soot filter is causing or is reasonably expected to cause a significant risk to workers or the public.
 4. Any other seriously detrimental cause which has the approval of the CPM prior to implementation of the termination.
- D. All heavy earth-moving equipment and heavy duty construction-related trucks with engines meeting the requirements of (b) above shall be properly maintained and the engines tuned to the engine manufacturer's specifications.
- E. All diesel heavy construction equipment shall not idle for more than five minutes, to the extent practical.

Verification: The project owner shall include in the MCR: a summary of all actions taken to maintain compliance with this Condition; a list of all heavy equipment used on site during that month, including the owner of that equipment and a letter from each owner indicating that the equipment has been properly maintained; and any other documentation deemed necessary by the CPM and AQCM to verify compliance with this Condition. Such information may be provided via electronic format or disk at the project owner's discretion.

AQ-SC6 The project owner shall submit to the CPM for review and approval any modification proposed by the project owner to any project air permit. The project owner shall submit to the CPM any modification to any permit proposed by the District or U.S. EPA, and any revised permit issued by the District or U.S. EPA, for the project.

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

AQ-SC7 The project owner shall surrender to the San Joaquin Valley Air Pollution Control District emission reductions in the form of offsets or emission reduction credits (ERCs) as calculated per SJVAPCD Rule 2201 to offset CO and SO_x emissions, as proposed by the Applicant.

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

Source / Reduction	ERC Number	CO (lb)	SOx (lb)
18800 Spreckels Blvd, Manteca	N-320-3	18,618	---
800 W. Church St, Stockton	N-575-5	---	3,206

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

Verification: The project owner shall submit to the CPM records showing that the project's offset requirements have been met prior to initiating construction. If the CPM approves a substitution or modification to the list of ERCs, the CPM shall file a statement of the approval with the project owner and Commission docket. The CPM shall maintain an updated list of approved ERCs for the project.

AQ-SC8 The project owner shall submit to the CPM quarterly operation reports that include operational and emissions information as necessary to demonstrate compliance with the Conditions of Certification. The quarterly operation report shall specifically note or highlight incidences of noncompliance.

Verification: The project owner shall submit quarterly operation reports to the CPM and APCO no later than 30 days following the end of each calendar quarter. This information shall be maintained on site for a minimum of five years and shall be provided to the CPM and District personnel upon request.

AQ-SC9 The wet surface air cooler (WSAC) shall have a mist eliminator with a manufacturer guaranteed mist reduction rate of 0.005 percent or less of the water recirculation rate. The wet surface air cooler spray water shall be tested for total dissolved solids and that data shall be used to determine and report the particulate matter emissions from the wet surface air cooler. The wet surface air cooler spray water shall be tested at least once annually during the anticipated summer operation peak period (July through September). The wet surface air cooler annual particulate matter emissions shall be limited to 110 lb/year PM10. The project owner shall estimate annual particulate emissions from the wet surface air cooler using the water quality testing data and estimated spray water use. Compliance with the wet surface air cooler PM10 emission limit shall be demonstrated as follows: PM10 =

cooling water recirculation * total dissolved solids concentration in the
blowdown water * design drift rate.

Verification: The project owner shall provide the CPM a copy of the manufacturer guarantee for the mist eliminator 30 days prior to installation of the wet surface air cooler. The project owner shall provide the water quality test results and the wet surface air cooler particulate matter emissions estimates to the CPM as part of the fourth quarter's quarterly operational report (**AQ-SC8**).

District Final Determination of Compliance Conditions (SJVAPCD - 2009d)

The SJVAPCD permits each device separately, which causes duplication of Conditions. The following SJVAPCD Conditions will eliminate this duplication, with the Conditions first for each of the two units in the combined-cycle system (**AQ-1** to **AQ-75**) and facility-wide Conditions (**AQ-76** to **AQ-101**), followed by the Conditions for, the emergency standby generator engine (**AQ-102** to **AQ-118**), the auxiliary boiler (**AQ-119** to **AQ-151**), and the fire water pump engine (**AQ-152** to **AQ-170**).

Equipment Description, Unit N-4597-1-5

Modification of an existing 84.4 MW nominally rated simple-cycle peak-demand power generating system #1 consisting of a General Electric Model PG 7121 EA natural gas-fired combustion turbine generator served by an inlet air filtration and cooling system, dry low-NO_x combustors, a SCR system with ammonia injection, and an oxidation catalyst: to convert the existing system to a combined cycle configuration by (1) removing the existing oxidation and selective catalytic reduction system and the existing 100 foot exhaust stacks, (2) installing a new heat recovery steam generator equipped with a 324 mmbtu/hr (HHV) natural gas-fired duct burner, (3) installing a new oxidation catalyst and new selective catalytic reduction system, (4) installing a new 150' tall 17' diameter stack, (5) installing a new STG lube oil cooler, and (6) installing a 145 MW nominally rated condensing steam turbine generator (shared with N-4597-2)

Equipment Description, Unit N-4597-2-6

Modification of an existing 84.4 MW nominally rated simple-cycle peak-demand power generating system #2 consisting of a General Electric Model PG 7121 EA natural gas-fired combustion turbine generator served by an inlet air filtration and cooling system, dry low-NO_x combustors, a SCR system with ammonia injection, and an oxidation catalyst: to convert the existing system to a combined cycle configuration by (1) removing the existing oxidation and selective catalytic reduction system and the existing 100 foot exhaust stacks, (2) installing a new heat recovery steam generator equipped with a 324 mmbtu/hr (HHV) natural gas-fired duct burner, (3) installing a new oxidation catalyst and new selective

catalytic reduction system, (4) installing a new 150' tall 17' diameter stack, (5) installing a new STG lube oil cooler, and (6) installing a 145 MW nominally rated condensing steam turbine generator (shared with N-4597-1)

AQ-1 The owner/operator shall not begin actual onsite construction of the equipment authorized by this 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 shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-2 To the extent this Determination of Compliance serves as an Authority to Construct, said Authority to Construct shall not become effective until the California Energy Commission approves the Application for Certification. [California Environmental Quality Act and District Rule 2201, Section 5.8.8.]

Verification: No verification necessary.

AQ-3 This Determination of Compliance serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule.]

Verification: No verification necessary.

AQ-4 Prior to operating with modifications authorized by this Determination of Compliance, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

Verification: The project owner shall submit to both the District and CPM the Title V Operating Permit application prior to operation.

AQ-5 The project owner/operator shall minimize the emissions from the gas turbine to the maximum extent possible during the commissioning period. Conditions **AQ-6** through **AQ-16** shall apply only during the commissioning period as defined below. Unless otherwise indicated, Conditions **AQ-17** through **AQ-101** shall apply after the commissioning period has ended. [District Rule 2201]

Verification: The project owner shall submit to the CPM and APCO for approval the commissioning plan as required in **AQ-11**.

AQ-6 Commissioning activities are defined as, but not limited to, all testing, adjustment, tuning and calibration activities recommended by the equipment manufacturers and the GWF Tracy construction contractor to insure safe and reliable steady state operation of the gas turbine,

heat recovery steam generators, steam turbine, and associated electrical delivery systems. [District Rule 2201]

Verification: No verification necessary.

AQ-7 Commissioning period shall commence when all mechanical, electrical, and control systems are installed and individual system startup has been completed, or when the gas turbine is first fired (at the beginning of the conversion to a combined cycle plant), whichever occurs first. The commissioning period shall terminate when the plant has completed initial performance testing, completed final plant tuning, and is available for commercial operation. [District Rule 2201]

Verification: The project owner shall submit to the CPM and APCO for approval the commissioning plan as required in **AQ-11**.

AQ-8 At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the combustors of this unit shall be tuned to minimize emissions. [District Rule 2201]

Verification: The project owner shall submit to the CPM and APCO for approval the commissioning plan as required in **AQ-11**.

AQ-9 At the earliest feasible opportunity, in accordance with the recommendations of the equipment manufacturer and the construction contractor, the Selective Catalytic Reduction (SCR) system and oxidation catalyst shall be installed, adjusted, and operated to minimize emissions from this unit. [District Rule 2201]

Verification: The project owner shall submit to the CPM and APCO for approval the commissioning plan as required in **AQ-11**.

AQ-10 Coincident with the steady state operation of the SCR system and the oxidation catalyst at loads greater than 50 percent and after installation and tuning of emission controls, NO_x, CO, and VOC emissions from this unit shall comply with the limits specified in Conditions **AQ-30** and **AQ-31** of this permit. [District Rule 2201]

Verification: The project owner shall submit to the CPM and APCO for approval the commissioning plan as required in **AQ-11**.

AQ-11 The owner/operator shall submit a plan to the District at least four weeks prior to first firing of this unit (after beginning of the conversion to a combined cycle plant), describing the procedures to be followed during the commissioning period. The plan shall include a description of each commissioning activity, the anticipated duration of each activity in hours, and the purpose of each activity. The activities described shall include, but not limited to, the tuning of the combustors, the installation and operation of the SCR system and

oxidation catalyst, the installation, calibration, and testing of NO_x and CO continuous emission monitors, and any activities requiring firing of this unit without abatement by the SCR system or oxidation catalyst. [District Rule 2201]

Verification: The project owner shall submit to the CPM and APCO for approval the commissioning plan at least four weeks prior to the first operation of the stationary gas turbines.

AQ-12 Emission rates from the CTG, during the commissioning period, shall not exceed any of the following limits: NO_x (as NO₂) – 146.70 lb/hr; PM10 – 5.80 lb/hr; VOC (as methane) – 3.20 lb/hr; CO – 229.60 lb/hr; SO_x (as SO₂) – 2.6 lb/hr. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-13 During the initial commissioning activities, the owner/operator shall demonstrate compliance with the NO_x emission limit specified in Condition **AQ-12** through the use of properly operated and maintained continuous emission monitor located within the inlet section of the steam generator unit. Upon completion of the initial commission activities and with the installation of the SCR system and oxidation catalyst, the owner/operator shall demonstrate compliance with the NO_x and CO emission limits specified in Conditions **AQ-30**, **AQ-31**, **AQ-32**, and **AQ-33** through the use of properly operated and maintained continuous emission monitors and recorders as specified in Conditions **AQ-55** and **AQ-56**. The monitored parameters for this unit shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation). [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-14 During initial commissioning activities, the inlet NO_x continuous emissions monitor specified in this permit shall be installed, calibrated, and operation prior to the first re-firing of this unit. Upon completion of the initial commissioning activities and the installation of the SCR system and oxidation catalyst, the exhaust stack NO_x and CO continuous monitors specified within this permit shall be installed, calibrated, and operational prior to the first re-firing of this unit with the SCR and oxidation catalyst in place. After the first re-firing, the detection range of each continuous emissions monitor shall be adjusted as necessary to accurately measure the resulting range of NO_x and/or CO emission concentrations. [District Rule 2201]

Verification: The project owner shall submit to the CPM and APCO for approval the commissioning plan as required in **AQ-11**.

AQ-15 The total number of firing hours of this unit without abatement of emissions by the SCR system and the oxidation catalyst shall not exceed 500 hours total during the commissioning period. Such operation of the unit without abatement shall be limited to discrete commissioning activities that can only be properly executed without the SCR system and oxidation catalyst in place. Upon completion of these activities, the owner/operator shall provide written notice to the District and the unused balance of the 500 firing hours without abatement shall expire. Records of the commissioning hours for this unit shall be maintained. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-16 The total mass emissions of NO_x, SO_x, PM10, CO, and VOC that are emitted during the commissioning period shall accrue towards the consecutive twelve month emission limit specified in Condition **AQ-41**. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-17 Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner shall submit the results of source tests to both the District and CPM in accordance with **AQ-50**.

AQ-18 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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

AQ-19 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 shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-20 Owner/operator 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, 6.1]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-21 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, 7.0]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-22 All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]

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

AQ-23 The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]

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

AQ-24 Combustion turbine generator (CTG) and electrical generator lube oil vents shall be equipped with mist eliminators. Visible emissions from lube oil vents shall not exhibit opacity of 5 percent or greater, except for up to three minutes in any hour. [District Rules 2201 and 4101]

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

AQ-25 A selective catalytic reduction (SCR) system and an oxidation catalyst shall serve this gas turbine engine. Exhaust ducting may be equipped (if required) with a fresh air inlet blower to be used to lower the exhaust temperature prior to inlet of the SCR system catalyst. The owner/operator 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 shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-26 During all types of operation, including startup and shutdown periods, ammonia injection in to the SCR system shall occur once the minimum temperature at the catalyst face has been reached to ensure NO_x emission reductions can occur with a reasonable level of ammonia slip. The minimum catalyst face temperature shall be determined during the final design phase of this project and shall be submitted to the District at least 30 days prior to commencement of construction. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-27 The SCR system shall be equipped with a continuous temperature monitoring system to measure and record the temperature at the catalyst face. [District Rule 2201]

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

AQ-28 Owner/operator 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 shall provide a Continuous Emission Monitoring System (CEM) design plan for approval by the APCO and CPM at least 30 days prior to commencement of construction.

AQ-29 The CTG shall only be fired on PUC-regulated natural gas with a sulfur content value not exceeding 0.66 grains of sulfur compounds (as S) per 100 dry standard cubic feet on a daily basis and 0.25 grains of sulfur compounds (as S) per 100 dry standard cubic feet on a 12-month rolling average basis. [District Rule 2201 and 40 CFR 60.4330(a)(2)]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-30 Emission rates from this CTG without the duct burner firing, except during startup and shutdown periods, shall not exceed any of the following limits: NO_x (as NO₂) – 8.10 lb/hr and 2.0 ppmvd @ 15% O₂; CO – 3.90 lb/hr and 2.0 ppmvd @ 15% O₂; VOC (as methane) – 1.13 lb/hr and 1.5 ppmvd @ 15% O₂; PM₁₀ – 4.40 lb/hr; or SO_x (as SO₂) – 2.03 lb/hr. NO_x (as NO₂) emission rates are one hour rolling averages. All other emission rates are three hour rolling averages. [District Rules 2201 and 4703 and 40 CFR 60.4320(a) & (b)]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-31 Emission rates from this CTG with the duct burner firing, except during startup and shutdown periods, shall not exceed any of the following limits: NO_x (as NO₂) – 10.30 lb/hr and 2.0 ppmvd @ 15% O₂; CO – 6.00 lb/hr and 2.0 ppmvd @ 15% O₂; VOC (as methane) – 3.22 lb/hr and 2.0 ppmvd @ 15% O₂; PM₁₀ – 5.80 lb/hr; or SO_x (as SO₂) – 2.63 lb/hr. NO_x (as NO₂) emission rates are one hour rolling averages. All other emission rates are three hour rolling averages. [District Rules 2201 and 4703 and 40 CFR 60.4320(a) & (b)]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-32 During start-up, CTG exhaust emission rates shall not exceed any of the following limits: NO_x (as NO₂) – 390.5 lb/event; CO – 562.5 lb/event; VOC (as methane) – 10.5 lb/event; PM₁₀ – 11.0 lb/event; or SO_x (as SO₂) – 4.1 lb/event. [District Rules 2201 and 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-33 During shutdown, CTG exhaust emission rates shall not exceed any of the following limits: NO_x (as NO₂) – 104.0 lb/event; CO – 148.0 lb/event; VOC (as methane) – 2.6 lb/event; PM₁₀ – 3.0 lb/event; or SO_x (as SO₂) – 1.1 lb/event. [District Rules 2201 and 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-34 A start up event is defined as the period beginning with the gas turbine initial firing until the unit meets the lb/hr and ppmvd emission limits in Condition 30 (**AQ-30**) or Condition 31 (**AQ-31**) depending on the operating conditions of the duct burners during the start up event. A shutdown event is defined as the period beginning with the turbine shutdown sequence and ending with the cessation of firing the gas turbine engine. [District Rules 2201 and 4703]

Verification: The project owner shall submit to the District and CPM the CTG startup and shutdown event duration data demonstrating compliance with this Condition as part of the quarterly operation report (**AQ-SC8**).

AQ-35 The duration of each startup shall not exceed three hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rules 2201 and 4703]

Verification: The project owner shall submit to the District and CPM the CTG startup and shutdown event duration data demonstrating compliance with this Condition as part of the quarterly operation report (**AQ-SC8**).

AQ-36 The duration of each shutdown shall not exceed two hours. Startup and shutdown emissions shall be counted toward all applicable emission limits. [District Rules 2201 and 4703]

Verification: The project owner shall submit to the District and CPM the CTG startup and shutdown event duration data demonstrating compliance with this condition as part of the quarterly operation report (**AQ-SC8**).

AQ-37 The emission control systems shall be in operation and emissions shall be minimized insofar as technologically feasible during startup and shutdown. [District Rule 4703]

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

AQ-38 The ammonia (NH₃) emissions shall not exceed 5 ppmvd @ 15% O₂ or 9.40 lb/hr over a 24 hour rolling average. [District Rules 2201 and 4102]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-39 Compliance with the ammonia emission limits shall be demonstrated utilizing one of the following procedures: 1) calculate the daily ammonia emissions using the following equation: (ppmvd @ 15% O₂) = ((a - (b x c/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 NO_x concentration ppmvd @ 15% 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; 2.) Utilize another District-approved calculation method using measured surrogate parameters to determine the daily ammonia emissions in ppmvd @ 15% O₂. If this option is chosen, the owner/operator shall submit a detailed calculation protocol for District approval at least 60 days prior to commencement of operation; 3.) Alternatively, the owner/operator may utilize a continuous in-stack ammonia monitor to verify compliance with the ammonia emissions limit. If this option is chosen, the owner/operator shall submit a monitoring plan for District approval at least 60 days prior to commencement of operation. [District Rules 2201 and 4102]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-40 Daily emissions from the CTG shall not exceed the following limits: NO_x (as NO₂) – 814.9 lb/day; CO – 1071.6 lb/day; VOC – 78.6 lb/day;

PM₁₀ – 132.0 lb/day; or SO_x (as SO₂) – 58.7 lb/day. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-41 Annual emissions from the CTG, calculated on a twelve consecutive month rolling basis, shall not exceed any of the following limits: NO_x (as NO₂) – 88,881 lb/year; CO – 74,598 lb/year; VOC – 15,145 lb/year; PM₁₀ – 32,250 lb/year; or SO_x (as SO₂) – 7,084 lb/year. Compliance with the annual NO_x and CO emission limits shall be demonstrated using CEM data and compliance with the annual VOC, PM₁₀ and SO_x emission limits shall be demonstrated using the most recent source test results. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-42 Each one hour period shall commence on the hour. Each one hour period in a three hour rolling average will commence on the hour. The three hour rolling average will be compiled from the three most recent one hour periods. Each one hour period in a twenty-four hour average for ammonia slip will commence on the hour. [District Rule 2201]

Verification: No verification necessary.

AQ-43 Daily emissions will be compiled for a twenty-four hour period starting and ending at twelve-midnight. Each month in the twelve consecutive month rolling average emissions shall commence at the beginning of the first day of the month. The twelve consecutive month rolling average emissions to determine compliance with annual emissions limitations shall be compiled from the twelve most recent calendar months. [District Rule 2201]

Verification: No verification necessary.

AQ-44 The combined natural gas fuel usage for permit units N-4597-1 and N-4597-2 shall not exceed 20,454 MMscf/year. [District Rule 2550]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-45 The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO_x, CO, and O₂ analyzer during District inspections. 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 shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-46 Source testing to measure the steady state NO_x, CO, VOC, and NH₃ emission rates (lb/hr and ppmvd @ 15% O₂) shall be conducted within 60 days after the end of the commissioning period and at least once every twelve months thereafter. [District Rules 1081, 2201 and 4703 and 40 CFR 60.4400]

Verification: The results and field data collected during source tests shall be submitted to the District and CPM within 60 days of testing and according to a pre-approved protocol (**AQ-50**). Testing for steady operation shall be conducted upon initial operation and at least once every twelve months.

AQ-47 Source testing to measure the PM₁₀ emission rate (lb/hr) shall be conducted within 60 days after the end of the commissioning period and at least once every twelve months thereafter. [District Rule 1081, 2201 and 40 CFR 60.4400]

Verification: The results and field data collected during source tests shall be submitted to the District and CPM within 60 days of testing and according to a pre-approved protocol (**AQ-50**). Testing for steady operation shall be conducted upon initial operation and at least once every twelve months.

AQ-48 Source testing to measure startup and shutdown NO_x, CO, and VOC mass emission rates shall be conducted for one of the gas turbines (N-4597-1 or N-4597-2) within 60 days after the end of the commissioning period and at least once every seven years thereafter. CEM relative accuracy for NO_x and CO shall be determined during startup and shutdown source testing in accordance with 40 CFR 60, Appendix F (Relative Accuracy Audit). If CEM data is not certifiable to determine compliance with NO_x and CO startup emission limits, then startup and shutdown NO_x and CO testing shall be conducted every 12 months. If an annual startup and shutdown NO_x and CO relative accuracy audit demonstrates that the CEM data is certifiable, the startup and shutdown NO_x and CO testing frequency shall return to the once every seven years schedule. [District Rule 1081 and 2201]

Verification: The results and field data collected during source tests shall be submitted to the District and CPM within 60 days of testing and according to a pre-approved protocol (**AQ-50**). Testing for startup and shutdown emissions shall be conducted upon initial operation and at least once every seven years.

AQ-49 Any gas turbine with an intermittently operated auxiliary burner shall demonstrate compliance with the auxiliary burner both on and off. [District Rule 4703]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-50 Source testing shall be District witnessed, or authorized and samples shall be collected by a California Air Resources Board certified testing laboratory. Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified 30 days prior to any compliance source test, and a source test plan must be submitted for approval 15 days prior to testing. The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Verification: The project owner shall submit the proposed source test plan or protocol for the source tests 15 days prior to the proposed source test date to both the District and CPM for approval. The project owner shall notify the District and CPM no later than 30 days prior to the proposed source test date and time. The project owner shall submit source test results no later than 60 days following the source test date to both the District and CPM.

AQ-51 The following test methods shall be used: NO_x - EPA Method 7E or 20 or ARB Method 100 and EPA Method 19 (Acid Rain Program); CO - EPA Method 10 or 10B or ARB Method 100; VOC - EPA Method 18 or 25; PM₁₀ - EPA Method 5 and 202 (front half and back half) or 201a and 202; ammonia - BAAQMD ST-1B; and O₂ - EPA Method 3, 3A, or 20 or ARB Method 100. NO_x testing shall also be conducted in accordance with the requirements of 40 CFR 60.4400(a)(2), (3), and (b). EPA approved alternative test methods as approved by the District may also be used to address the source testing requirements of this permit. [District Rules 1081 and 4703 and 40 CFR 60.4400(1)(i) and 40 CFR 60.4400(a)(2), (3), and (b)]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-52 Testing to demonstrate compliance with the short-term (daily) fuel sulfur content limit shall be conducted monthly. If a monthly test indicates that a violation of the daily fuel sulfur content limit has occurred then weekly testing shall commence and continue until eight consecutive tests show compliance. Once compliance with the daily fuel sulfur content is demonstrated on eight consecutive weekly tests, testing may return to the monthly schedule. If the unit is not operated during an entire calendar month, fuel sulfur content testing shall not be

required for that specific month. [District Rule 2201 and 40 CFR 60.4360, 60.4365(a) and 60.4370(c)]

Verification: The result of the natural gas fuel sulfur monitoring data and other fuel sulfur content source data shall be submitted to the District and CPM in the quarterly operation report (**AQ-SC8**).

AQ-53 Compliance with the rolling 12-month average fuel sulfur content limit shall be demonstrated monthly. The 12-month rolling average fuel sulfur content shall be calculated as follows: 12-month rolling average fuel sulfur content = Sum of the monthly average fuel sulfur contents for the previous 12 months ÷ Total number of months the unit has operated in during the previous 12 months. The monthly average fuel sulfur content is the average fuel sulfur content of all tests conducted in a given month. If the unit is not operated during an entire calendar month, fuel sulfur content testing shall not be required for that specific month. Owner/operator shall keep a monthly record of the rolling 12-month average fuel sulfur content. [District Rules 1081 and 2201]

Verification: The result of the natural gas fuel sulfur monitoring data and other fuel sulfur content source data shall be submitted to the District and CPM in the quarterly operation report (**AQ-SC8**).

AQ-54 Fuel sulfur content shall be monitored using one of the following methods: ASTM Methods D1072, D3246, D4084, D4468, D4810, D6228, D6667 or Gas Processors Association Standard 2377. [40 CFR 60.4415(a)(1)(i)]

Verification: The result of the natural gas fuel sulfur monitoring data and other fuel sulfur content source data shall be submitted to the District and CPM in the quarterly operation report (**AQ-SC8**).

AQ-55 The CTG shall be equipped with a continuous monitoring system to measure and record fuel consumption. [District Rules 2201 and 4703]

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

AQ-56 The owner or operator shall install, certify, maintain, operate and quality-assure a Continuous Emission Monitoring System (CEMS) which continuously measures and records the exhaust gas NO_x, CO and O₂ concentrations. Continuous emissions monitor(s) shall monitor emissions during all types of operation, including during startup and shutdown periods, provided the CEMS passes the relative accuracy requirement for startups and shutdowns specified herein. If relative accuracy of CEMS cannot be demonstrated during startup conditions, CEMS 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 1080 and 4703 and 40 CFR 60.4335(b)(1)]

Verification: The project owner shall provide a Continuous Emission Monitoring System (CEM) protocol for approval by the APCO and CPM at least 60 days prior to installation of the CEM. The project owner shall make the site available for inspection by representatives of the District, ARB and the Commission upon request.

AQ-57 The CEMS shall complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period or shall meet equivalent specifications established by mutual agreement of the District, the ARB and the EPA. [District Rule 1080 and 40 CFR 60.4345(b)]

Verification: The project owner shall provide a Continuous Emission Monitoring System (CEM) protocol for approval by the APCO and CPM at least 60 days prior to installation of the CEM. The project owner shall make the site available for inspection by representatives of the District, ARB and the Commission upon request.

AQ-58 The NO_x, CO and O₂ CEMS shall meet the requirements in 40 CFR 60, Appendix F Procedure 1 and Part 60, Appendix B Performance Specifications 2, 3, and 4, and/or 40 CFR 75 Appendix A, or shall meet equivalent specifications established by mutual agreement of the District, the ARB, and the EPA. [District Rule 1080 and 40 CFR 60.4345(a)]

Verification: The project owner shall provide a Continuous Emission Monitoring System (CEM) protocol for approval by the APCO and CPM at least 60 days prior to installation of the CEM. The project owner shall make the site available for inspection by representatives of the District, ARB and the Commission upon request.

AQ-59 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 along with quarterly compliance reports to the District. [District Rule 1080]

Verification: The project owner shall submit to the CPM and APCO CEMS audits demonstrating compliance with this Condition as part of the quarterly operation report (**AQ-SC8**).

AQ-60 The owner/operator shall perform a relative accuracy test audit (RATA) for NO_x, CO and O₂ as specified by 40 CFR Part 60, Appendix F, 5.11, or 40 CFR Part 75 Appendix B, at least once every four calendar quarters. The owner/operator 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. If the RATA test is conducted as specified in 40 CFR Part 75 Appendix B, the RATA shall be conducted on a lb/MMBtu basis. [District Rule 1080 and 40 CFR 60.4345]

Verification: The project owner shall submit to the CPM and APCO CEMS audits demonstrating compliance with this Condition as part of the quarterly operation report (**AQ-SC8**).

AQ-61 APCO or an authorized representative shall be allowed to inspect, as determined to be necessary, the required monitoring devices to ensure that such devices are functioning properly. [District Rule 1080]

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Commission to verify the monitoring devices are properly installed and operational.

AQ-62 The owner/operator shall develop and keep onsite a quality assurance plan for all the continuous monitoring equipment described in 40 CFR 60.4345(a), (c), and (d). [40 CFR 60.4345(e)]

Verification: The project owner shall make the site available for inspection by representatives of the District, ARB, and the Commission to verify the monitoring devices are properly installed and operational.

AQ-63 Results of the CEM system shall be averaged over a one hour period for NO_x emissions and a three hour period for CO emissions using consecutive 15-minute sampling periods in accordance with all applicable requirements of 40 CFR 60.13. [District Rule 4703 and 40 CFR 60.13 and 40 CFR 60.4350(a)]

Verification: The project owner shall submit to the District and CPM the report of emission data in the quarterly operation report (**AQ-SC8**) that follows the definitions of this Condition.

AQ-64 The owner or operator shall, upon written notice from the APCO, provide a summary of the data obtained from the CEM systems. This summary shall be in the form and the manner prescribed by the APCO. [District Rule 1080]

Verification: The project owner shall submit to the District and CPM the report of CEM operations upon notice from the APCO.

AQ-65 The facility shall install and maintain equipment, facilities, and systems compatible with the District's CEM data polling software system and shall make CEM data available to the District's automated polling system on a daily basis. [District Rule 1080]

Verification: The project owner shall provide a Continuous Emission Monitoring System (CEM) protocol for approval by the APCO and CPM at least 60 days prior to installation of the CEM. The project owner shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-66 Upon notice by the District that the facility's CEM system is not providing polling data, the facility may continue to operate without providing automated data for a maximum of 30 days per calendar year provided the CEM data is sent to the District by a District-approved alternative method. [District Rule 1080]

Verification: The project owner shall provide required non-polled CEM data to the District by a District-approved alternative method.

AQ-67 Excess NO_x emissions shall be defined as any 30 day operating period in which the 30 day rolling average NO_x concentration exceeds an applicable emissions limit. A 30 day rolling average NO_x emission rate is the arithmetic average of all hourly NO_x emission data in ppm measured by the continuous monitoring equipment for a given day and the twenty-nine unit operating days immediately preceding that unit operating day. A new 30 day average is calculated each unit operating day as the average of all hourly NO_x emission rates for the preceding 30 unit operating days if a valid NO_x emission rate is obtained for at least 75 percent of all operating hours. A period of monitor downtime shall be any unit operating hour in which sufficient data are not obtained to validate the hour for either NO_x or O₂ (or both). [40 CFR 60.4350(h) and 40 CFR 60.4380(b)(1)]

Verification: No verification necessary.

AQ-68 For the purpose of determining excess NO_x emissions, for each unit operating hour in which a valid hourly average is obtained, the data acquisition system and handling system must calculate and record the hourly NO_x emission rate in units of ppm or lb/MMBtu, using the appropriate equation from Method 19 of 40 CFR 60 Appendix A. For any hour in which the hourly O₂ concentration exceeds 19.0% O₂, a diluent cap value of 19% O₂ may be used in the emission calculations. [40 CFR 60.4350(b)]

Verification: No verification necessary.

AQ-69 Excess SO_x emissions is each unit operating hour included in the period beginning on the date and hour of any sample for which the fuel sulfur content exceeds the applicable limits listed in this permit and ending on the date and hour that a subsequent sample is taken that demonstrates compliance with the sulfur limit. Monitoring downtime for SO_x begins when a sample is not taken by its due date. A period of monitor downtime for SO_x also begins on the date and

hour of a required sample, if invalid results are obtained. A period of SO_x monitoring downtime ends on the date and hour of the next valid sample. [40 CFR 60.4385(a) and (c)]

Verification: No verification necessary.

AQ-70 The owner or operator shall submit a written report of CEM operations for each calendar quarter to the APCO. The report is due on the 30th day following the end of the calendar quarter and shall include the following: Time intervals, data and magnitude of excess NO_x emissions, nature and the cause of excess (if known), corrective actions taken and preventive measures adopted; Averaging period used for data reporting corresponding to the averaging period specified in the emission test period used to determine compliance with an emission standard; Applicable time and date of each period during which the CEM was inoperative (monitor downtime), except for zero and span checks, and the nature of system repairs and adjustments; A negative declaration when no excess emissions occurred. [District Rule 1080 and 40 CFR 60.4375(a) and 60.4395]

Verification: The project owner shall submit to the District and CPM the report of CEM operations, emission data, and monitor downtime data in the quarterly operation report (**AQ-SC8**) that follows the definitions of this Condition.

AQ-71 The owner/operator shall submit to the District information correlating the NO_x control system operating parameters to the associated measured NO_x output. The information must be sufficient to allow the District to determine compliance with the NO_x emission limits of this permit during times that the CEMS is not functioning properly. [District Rule 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-72 The owner/operator shall maintain the following records: date and time, duration, and type of any startup, shutdown, or malfunction; performance testing, evaluations, calibrations, checks, adjustments, any period during which a continuous monitoring system or monitoring device was inoperative, and maintenance of any continuous emission monitor. [District Rules 2201 and 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-73 The owner/operator shall maintain the following records: hours of operation, fuel consumption (scf/hr and scf/rolling twelve month period), continuous emission monitor measurements, calculated

ammonia slip, calculated NO_x and CO mass emission rates (lb/hr and lb/twelve month rolling period), and VOC, PM10 and SO_x emission rates (lb/twelve month rolling period). [District Rules 2201 and 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-74 The owner/operator shall maintain a system operating log, updated on a daily basis, which includes the following information: The actual local start-up time and stop time, length and reason for reduced load periods, total hours of operation, and type and quantity of fuel used. [District Rule 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-75 The owner or operator of a stationary gas turbine system shall maintain all records of required monitoring data and support information for inspection at any time for a period of five years. [District Rules 2201 and 4703]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-76 The owners and operators of each affected source and each affected unit at the source shall: (i) Operate the unit in compliance with a complete Acid Rain permit application or a superseding Acid Rain permit issued by the permitting authority; and (ii) have an Acid Rain permit. [40 CFR 72]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-77 The owners and operators and, to the extent applicable, designated representative of each affected source and each affected unit at the source shall comply with the monitoring requirements as provided in 40 CFR part 75. [40 CFR 75]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-78 The emissions measurements recorded and reported in accordance with 40 CFR part 75 shall be used to determine compliance by the unit with the Acid Rain emissions limitations and emissions reduction requirements for sulfur dioxide and nitrogen oxides under the Acid Rain Program. [40 CFR 75]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-79 The owners and operators of each source and each affected unit at the source shall: (i) hold allowances, as of the allowance transfer deadline, in the unit's compliance subaccount (after deductions under 40 CFR 73.34(c)) not less than the total annual emissions of sulfur dioxide for the previous calendar year from the unit; and (ii) comply with the applicable Acid Rain emissions limitations for sulfur dioxide. [40 CFR 73]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-80 Each ton of sulfur dioxide emitted in excess of the Acid Rain emissions limitations for sulfur dioxide shall constitute a separate violation of the Act. [40 CFR 77]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-81 An affected unit shall be subject to the sulfur dioxide requirements starting on the later of January 1, 2000, or the deadline for monitoring certification under 40 CFR part 75, an affected unit under 40 CFR 72.6(a)(3) that is not a substitution or compensating unit. [40 CFR 72, 40 CFR 75]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-82 Allowances shall be held in, deducted from, or transferred among Allowance Tracking System accounts in accordance with the Acid Rain Program. [40 CFR 72]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-83 An allowance shall not be deducted in order to comply with the requirements under 40 CFR part 73, prior to the calendar year for which the allowance was allocated. [40 CFR 73]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-84 An allowance allocated by the Administrator under the Acid Rain Program is a limited authorization to emit sulfur dioxide in accordance with the Acid Rain Program. No provision of the Acid Rain Program, the Acid Rain permit application, the Acid Rain permit, or the written exemption under 40 CFR 72.7 and 72.8 and no provision of law shall

be construed to limit the authority of the United States to terminate or limit such authorization. [40 CFR 72]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-85 An allowance allocated by the Administrator under the Acid Rain Program does not constitute a property right. [40 CFR 72]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-86 The owners and operators of the source and each affected unit at the source shall comply with the applicable Acid Rain emissions limitation for nitrogen oxides. [40 CFR 72]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-87 The designated representative of an affected unit that has excess emissions in any calendar year shall submit a proposed offset plan, as required under 40 CFR part 77. [40 CFR 77]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-88 The owners and operators of an affected unit that has excess emissions in any calendar year shall: (i) pay without demand the penalty required, and pay up on demand the interest on that penalty; and (ii) comply with the terms of an approved offset plan, as required by 40 CFR part 77. [40 CFR 77]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-89 The owners and operators of the each affected unit at the source shall keep on site the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority: (i) The certificate of representation for the designated representative for the source and all documents that demonstrate the truth of the statements in the certificate of representation, in accordance with 40 CFR 72.24; provided that the certificate and documents shall be retained on site beyond such five-year period until such documents are superseded because of the submission of a new certificate of representation changing the designated representative. [40 CFR 72]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-90 The owners and operators of each affected unit at the source shall keep on site each of the following documents for a period of five years from the date the document is created. This period may be extended for cause, at any time prior to the end of five years, in writing by the Administrator or permitting authority; (ii) All emissions monitoring information, in accordance with 40 CFR part 75; (iii) Copies of all reports, compliance certifications and other submissions and all records made or required under the Acid Rain Program; (iv) Copies of all documents used to complete an Acid Rain permit application and any other submission that demonstrates compliance with the requirements of the Acid Rain Program. [40 CFR 72, 40 CFR 75]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-91 The designated representative of an affected source and each affected unit at the source shall submit the reports and compliance certifications required under the Acid Rain Program, including those under 40 CFR 75 Subpart I. [40 CFR 75]

Verification: The project owner shall submit to both the District and CPM the Acid Rain Program application after completing commissioning.

AQ-92 Disturbances of soil related to any construction, demolition, excavation, extraction, or other earthmoving activities shall comply with the requirements for fugitive dust control in District Rule 8021 unless specifically exempted under Section 4.0 of Rule 8021 or Rule 8011. [District Rules 8011 and 8021]

Verification: A summary of significant construction activities and monitoring records required shall be included in the construction monthly compliance report (**AQ-SC3**).

AQ-93 An owner/operator shall submit a Dust Control Plan to the APCO prior to the start of any construction activity on any site that will include 10 acres or more of disturbed surface area for residential developments, or five acres or more of disturbed surface area for non-residential development, or will include moving, depositing, or relocating more than 2,500 cubic yards per day of bulk materials on at least three days. [District Rules 8011 and 8021]

Verification: The Dust Control Plan shall be included within the Air Quality Construction Mitigation Plan and submitted to the District and CPM (**AQ-SC2**), and a summary of significant construction activities and monitoring records required shall be included in the construction monthly compliance report (**AQ-SC3**).

AQ-94 An owner/operator shall prevent or cleanup any carryout or trackout in accordance with the requirements of District Rule 8041 Section 5.0,

unless specifically exempted under Section 4.0 of Rule 8041 (8/19/04) or Rule 8011(8/19/04). [District Rules 8011 and 8021]

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

AQ-95 Whenever open areas are disturbed, or vehicles are used in open areas, the facility shall comply with the requirements of Section 5.0 of District Rule 8051, unless specifically exempted under Section 4.0 of Rule 8051 or Rule 8011. [District Rules 8011 and 8051] N

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

AQ-96 Any paved road or unpaved road shall comply with the requirements of District Rule 8061 unless specifically exempted under Section 4.0 of Rule 8061 or Rule 8011. [District Rules 8011 and 8061]

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

AQ-97 Water, gravel, roadmix, or chemical/organic dust stabilizers suppressants, vegetative materials, or other District-approved control measure shall be applied to unpaved vehicle travel areas as required to limit Visible Dust Emissions to 20 percent opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]

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

AQ-98 Where dusting materials are allowed to accumulate on paved surfaces, the accumulation shall be removed daily or water and/or chemical/organic dust stabilizers/suppressants shall be applied to the paved surface as required to maintain continuous compliance with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011 and limit Visible Dust Emissions (VDE) to 20 percent opacity. [District Rule 8011 and 8071]

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

AQ-99 On each day that 50 or more Vehicle Daily Trips or 25 or more Vehicle Daily Trips with three axles or more will occur on an unpaved vehicle/equipment traffic area, owner/operator shall apply water, gravel, roadmix, or chemical/organic dust stabilizers/suppressants, vegetative materials, or other District-approved control measure as required to limit Visible Dust Emissions to 20 percent opacity and comply with the requirements for a stabilized unpaved road as defined in Section 3.59 of District Rule 8011. [District Rule 8011 and 8071]

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

AQ-100 Whenever any portion of the site becomes inactive, owner/operator shall restrict access and periodically stabilize any disturbed surface to comply with the Conditions for a stabilized surface as defined in Section 3.58 of District Rule 8011. [District Rules 8011 and 8071]

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

AQ-101 Records and other supporting documentation shall be maintained as required to demonstrate compliance with the requirements of the rules under Regulation VIII only for those days that a control measure was implemented. Such records shall include the type of control measure(s) used, the location and extent of coverage, and the date, amount, and frequency of application of dust suppressant, manufacturer's dust suppressant product information sheet that identifies the name of the dust suppressant and application instructions. Records shall be kept for one year following project completion that results in the termination of all dust generating activities. [District Rules 8011, 8031, and 8071]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

Equipment Description, Unit N-4597-4-2

Modification of a 471 HP Caterpillar Model 3456 DI TA AA diesel-fired emergency IC engine powering a 300 kW electrical generator to reduce the annual hours of operation for maintenance and testing from 200 hours/year to 50 hours/year

AQ-102 This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]

Verification: No verification necessary.

AQ-103 Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

Verification: The project owner shall submit to both the District and CPM the Title V Operating Permit application prior to operation.

AQ-104 Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner shall submit the results of certification tests to both the District and CPM in accordance with **AQ-111**.

AQ-105 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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

AQ-106 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 shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-107 The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]

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

AQ-108 This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 17 CCR 93115]

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

AQ-109 Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201, 4102, and 4801 and 17 CCR 93115]

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

AQ-110 Emissions from this IC engine shall not exceed any of the following limits: 4.69 g-NO_x/bhp-hr, 0.12 g-CO/bhp-hr, or 0.04 g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-111 Emissions from this IC engine shall not exceed 0.029 g-PM₁₀/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-112 This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [District Rule 4702]

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

AQ-113 During periods of operation for maintenance, testing, and required regulatory purposes, the owner/operator shall monitor the operational characteristics of the engine as recommended by the manufacturer or emission control system supplier (for example: check engine fluid levels, battery, cables and connections; change engine oil and filters; replace engine coolant; and/or other operational characteristics as recommended by the manufacturer or supplier). [District Rule 4702]

Verification: The project owner shall submit to the District and CPM engine operation procedures and data demonstrating compliance with this Condition as part of the quarterly operation report (AQ-SC8).

AQ-114 An emergency situation is an unscheduled electrical power outage caused by sudden and reasonably unforeseen natural disasters or sudden and reasonably unforeseen events beyond the control of the owner/operator. [District Rule 4702]

Verification: No verification necessary.

AQ-115 This engine shall not be used to produce power for the electrical distribution system, as part of a voluntary utility demand reduction program, or for an interruptible power contract. [District Rule 4702]

Verification: The project owner shall submit to the District and CPM engine operation procedures and data demonstrating compliance with this Condition as part of the quarterly operation report (AQ-SC8).

AQ-116 This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. Operation of the engine for maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rules 4702 and 17 CCR]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-117 The owner/operator shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours

of emergency operation, the date and number of hours of all testing and maintenance operations, the purpose of the operation (for example: load testing, weekly testing, rolling blackout, general area power outage, etc.) and records of operational characteristics monitoring. For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-118 All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

Equipment Description, Unit N-4597-5-0

85 MMBTU/HR natural gas-fired Rentech Model RTD-2-60 boiler with a Coen Model C-RMB burner and flue gas recirculation or equivalent.

AQ-119 This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]

Verification: No verification necessary.

AQ-120 Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

Verification: The project owner shall submit to both the District and CPM the Title V Operating Permit application prior to operation.

AQ-121 Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner shall submit the results of fuel tests to both the District and CPM in accordance with **AQ-144**.

AQ-122 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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

AQ-123 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 shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-124 The owner/operator shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]

Verification: The project owner shall submit to both the District and CPM the application for equivalent equipment as needed.

AQ-125 The owner/operator's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]

Verification: The project owner shall submit to both the District and CPM the application for equivalent equipment as needed.

AQ-126 Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]

Verification: The project owner shall submit to both the District and CPM the application for equivalent equipment as needed.

AQ-127 No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

Verification: The project owner shall submit to both the District and CPM the application for equivalent equipment as needed.

AQ-128 All equipment shall be maintained in good operating condition and shall be operated in a manner to minimize emissions of air contaminants into the atmosphere. [District Rule 2201]

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

AQ-129 The flue gas recirculation (FGR) system shall be operated properly and shall be maintained per the manufacturer's recommendations. [District Rule 2201]

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

AQ-130 A non-resettable, totalizing mass or volumetric fuel flow meter to measure the amount of fuel combusted in the unit shall be installed, utilized and maintained. The fuel meter shall be calibrated per the fuel meter manufacturers recommendations. [District Rules 2201 and 40 CFR 60.48 (c)(g)]

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

AQ-131 The boiler shall operate a maximum of 4,000 hours per calendar year. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-132 The boiler shall only be fired on PUC-regulated natural gas with a sulfur content value not exceeding 0.66 grains of sulfur compounds (as S) per 100 dry standard cubic feet on a daily basis and 0.25 grains of sulfur compounds (as S) per 100 dry standard cubic feet on a 12-month rolling average basis. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-133 Emission rates from this unit shall not exceed any of the following limits: NO_x (as NO₂) – 6.0 ppmvd @ 3% O₂ or 0.0073 lb/MMBtu; VOC (as methane) – 0.005 lb/MMBtu; CO - 50.0 ppmvd @ 3% O₂ or 0.037 lb/MMBtu; PM₁₀ - 0.007 lb/MMBtu; or SO_x (as SO₂) - 0.0019 lb/MMBtu. [District Rules 2201, 4305, 4306, 4320, and 4351]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-134 Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted within 60 days of initial start-up. [District Rules 2201, 4305, 4306, and 4320]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with condition **AQ-50**.

AQ-135 Source testing to measure NO_x and CO emissions from this unit while fired on natural gas shall be conducted at least once every twelve (12) months. After demonstrating compliance on two (2) consecutive annual source tests, the unit shall be tested not less than once every thirty-six (36) months. If the result of the 36-month source test demonstrates that the unit does not meet the applicable emission limits, the source testing frequency shall revert to at least once every twelve (12) months. [District Rules 4305, 4306, and 4320]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with condition **AQ-50**.

AQ-136 All emissions measurements shall be made with the unit operating either at conditions representative of normal operations or conditions specified in the Permit to Operate. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer, or within 30 minutes after a re-ignition as defined in Section 3.0 of District Rule 4306. [District Rules 4305, 4306, and 4320]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-137 Source testing shall be conducted using the methods and procedures approved by the District. The District must be notified at least 30 days prior to any compliance source test, and a source test plan must be submitted for approval at least 15 days prior to testing. [District Rule 1081]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-138 The results of each source test shall be submitted to the District within 60 days thereafter. [District Rule 1081]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**. The project owner shall submit source test results no later than 60 days following the source test date to both the District and CPM.

AQ-139 The source plan shall identify which basis (ppmv or lb/MMBtu) will be used to demonstrate compliance. [District Rules 4305, 4306, and 4320]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-140 For emissions source testing, the arithmetic average of three 30-consecutive-minute (or longer periods as necessary) test runs shall apply. If two of three runs are above an applicable limit the test cannot be used to demonstrate compliance with an applicable limit. [District Rules 4305, 4306, and 4320]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-141 NO_x emissions for source test purposes shall be determined using EPA Method 7E or ARB Method 100 on a ppmv basis, or EPA Method 19 on a heat input basis. [District Rules 4305, 4306, and 4320]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-142 CO emissions for source test purposes shall be determined using EPA Method 10 or ARB Method 100. [District Rules 4305, 4306, and 4320]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-143 Stack gas oxygen (O₂) shall be determined using EPA Method 3 or 3A or ARB Method 100. [District Rules 4305, 4306, and 4320]

Verification: The project owner shall submit the proposed protocol for the source tests to both the District and CPM for approval in accordance with Condition **AQ-50**.

AQ-144 Testing to demonstrate compliance with the short-term (daily) fuel sulfur content limit shall be conducted monthly. If a monthly test indicates that a violation of the daily fuel sulfur content limit has occurred then weekly testing shall commence and continue until eight consecutive tests show compliance. Once compliance with the daily fuel sulfur content is demonstrated on eight consecutive weekly tests, testing may return to the monthly schedule. If the unit is not operated during an entire calendar month, fuel sulfur content testing shall not be required for that specific month. [District Rule 2201 and 40 CFR 60.4360, 60.4365(a) and 60.4370(c)]

Verification: The result of the natural gas fuel sulfur monitoring data and other fuel sulfur content source data shall be submitted to the District and CPM in the quarterly operation report (**AQ-SC8**).

AQ-145 Compliance with the rolling 12-month average fuel sulfur content limit shall be demonstrated monthly. The 12-month rolling average fuel sulfur content shall be calculated as follows: 12-month rolling average

fuel sulfur content = Sum of the monthly average fuel sulfur contents for the previous 12 months ÷ total number of months the unit has operated in during the previous 12 months. The monthly average fuel sulfur content is the average fuel sulfur content of all tests conducted in a given month. If the unit is not operated during an entire calendar month, fuel sulfur content testing shall not be required for that specific month. Owner/operator shall keep a monthly record of the rolling 12-month average fuel sulfur content. [District Rules 1081 and 2201]

Verification: The result of the natural gas fuel sulfur monitoring data and other fuel sulfur content source data shall be submitted to the District and CPM in the quarterly operation report (**AQ-SC8**).

AQ-146 Fuel sulfur content shall be monitored using one of the following methods: ASTM Methods D1072, D3246, D4084, D4468, D4810, D6228, D6667 or Gas Processors Association Standard 2377. [District Rule 2201]

Verification: The result of the natural gas fuel sulfur monitoring data and other fuel sulfur content source data shall be submitted to the District and CPM in the quarterly operation report (**AQ-SC8**).

AQ-147 The exhaust stack shall either be equipped with a continuous emissions monitor (CEM) for NO_x, CO, and O₂ or the owner/operator shall implement one of the alternate monitoring schemes (A, B, C, D, E, F, or G) listed in District Rule 4320, Section 5.7.1 (dated 10/16/08). Owner/operator shall submit, in writing, the chosen method of monitoring (either CEMS or chosen alternate monitoring scheme) at least 30 days prior to initial operation of this boiler. [District Rules 2201, 4305, 4306 and 4320]

Verification: The project owner shall provide a Continuous Emission Monitoring System (CEM) protocol for approval by the APCO and CPM at least 60 days prior to installation of the CEM. The project owner shall make the site available for inspection by representatives of the District, ARB and the Commission upon request.

AQ-148 The exhaust stack shall be equipped with permanent provisions to allow collection of stack gas samples consistent with EPA test methods and shall be equipped with safe permanent provisions to sample stack gases with a portable NO_x, CO, and O₂ analyzer during District inspections. 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 Source Emission Monitoring and Testing. [District Rule 1081]

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

AQ-149 Owner/operator shall maintain daily records of the type and quantity of fuel combusted by the boiler. [District Rule 2201 and 40 CFR 60.48 (c)(g)]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-150 Owner/operator shall keep a record of the cumulative annual quantity of hours operated for this unit. The record shall be updated at least monthly. [District Rule 2201]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-151 All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rules 1070, 4305, 4306, and 4320]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

Equipment Description, Unit N-4597-6-0

288 BHP Cummins Model CFP83-F40 TIER 3 diesel-fired emergency IC engine powering a firewater pump or equivalent.

AQ-152 This Authority to Construct serves as a written certificate of conformity with the procedural requirements of 40 CFR 70.7 and 70.8 and with the compliance requirements of 40 CFR 70.6(c). [District NSR Rule]

Verification: No verification necessary.

AQ-153 Prior to operating with modifications authorized by this Authority to Construct, the facility shall submit an application to modify the Title V permit with an administrative amendment in accordance with District Rule 2520 Section 5.3.4. [District Rule 2520, 5.3.4]

Verification: The project owner shall submit to both the District and CPM the Title V Operating Permit application prior to operation.

AQ-154 Particulate matter emissions shall not exceed 0.1 grains/dscf in concentration. [District Rule 4201]

Verification: The project owner shall submit the results of certification tests to both the District and CPM in accordance with **AQ-167**.

AQ-155 No air contaminant shall be released into the atmosphere which causes a public nuisance. [District Rule 4102]

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

AQ-156 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 shall make the site available for inspection by representatives of the District, ARB, and the Commission upon request.

AQ-157 The owner/operator shall obtain written District approval for the use of any equivalent equipment not specifically approved by this Authority to Construct. Approval of the equivalent equipment shall be made only after the District's determination that the submitted design and performance of the proposed alternate equipment is equivalent to the specifically authorized equipment. [District Rule 2201]

Verification: The project owner shall submit to both the District and CPM the application for equivalent equipment as needed.

AQ-158 The owner/operator's request for approval of equivalent equipment shall include the make, model, manufacturer's maximum rating, manufacturer's guaranteed emission rates, equipment drawing(s), and operational characteristics/parameters. [District Rule 2010]

Verification: The project owner shall submit to both the District and CPM the application for equivalent equipment as needed.

AQ-159 Alternate equipment shall be of the same class and category of source as the equipment authorized by the Authority to Construct. [District Rule 2201]

Verification: The project owner shall submit to both the District and CPM the application for equivalent equipment as needed.

AQ-160 No emission factor and no emission shall be greater for the alternate equipment than for the proposed equipment. No changes in the hours of operation, operating rate, throughput, or firing rate may be authorized for any alternate equipment. [District Rule 2201]

Verification: The project owner shall submit to both the District and CPM the application for equivalent equipment as needed.

AQ-161 The exhaust stack shall vent vertically upward. The vertical exhaust flow shall not be impeded by a rain cap, roof overhang, or any other obstruction. [District Rule 4102]

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

AQ-162 This engine shall be equipped with an operational non-resettable elapsed time meter or other APCO approved alternative. [District Rule 4702 and 40 CFR 60.4209(a)]

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

AQ-163 This engine shall be equipped with either a positive crankcase ventilation (PCV) system that recirculates crankcase emissions into the air intake system for combustion, or a crankcase emissions control device of at least 90 percent control efficiency. [District Rule 2201]

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

AQ-164 This engine shall be operated and maintained in proper operating condition as recommended by the engine manufacturer or emissions control system supplier. [40 CFR 60.4211(a)]

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

AQ-165 Only CARB certified diesel fuel containing not more than 0.0015% sulfur by weight is to be used. [District Rules 2201 and 4801, 40 CFR 60.4207, and 17 CCR 93115]

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

AQ-166 Emissions from this IC engine shall not exceed any of the following limits: 2.67 g-NOx/bhp-hr, 2.39 g-CO/bhp-hr, or 0.16 g-VOC/bhp-hr. [District Rule 2201 and 13 CCR 2423 and 17 CCR 93115 and 40 CFR 60.4205(c)]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-167 Emissions from this IC engine shall not exceed 0.12 g-PM10/bhp-hr based on USEPA certification using ISO 8178 test procedure. [District Rules 2201 and 4102 and 13 CCR 2423 and 17 CCR 93115 and 40 CFR 60.4205(c)]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (AQ-SC8).

AQ-168 This engine shall be operated only for testing and maintenance of the engine, required regulatory purposes, and during emergency situations. For testing purposes, the engine shall only be operated the number of hours necessary to comply with the testing requirements of the National Fire Protection Association (NFPA) 25 - "Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems", 1998 edition. Total hours of operation for all maintenance, testing, and required regulatory purposes shall not exceed 50 hours per calendar year. [District Rule 4702 and 17 CCR 93115 and 40 CFR 60.4211(e)]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-169 The owner/operator shall maintain monthly records of emergency and non-emergency operation. Records shall include the number of hours of emergency operation, the date and number of hours of all testing and maintenance operations, and the purpose of the operation (for example: load testing, weekly testing, emergency firefighting, etc.). For units with automated testing systems, the operator may, as an alternative to keeping records of actual operation for testing purposes, maintain a readily accessible written record of the automated testing schedule. [District Rule 4702 and 17 CCR 93115]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

AQ-170 All records shall be maintained and retained on-site for a minimum of five (5) years, and shall be made available for District inspection upon request. [District Rule 4702 and 17 CCR 93115]

Verification: A summary of significant operation and maintenance events and monitoring records required shall be included in the quarterly operation report (**AQ-SC8**).

C. PUBLIC HEALTH

This topic supplements the previous discussion on air quality and considers the potential public health effects from project emissions of toxic air contaminants (TACs). In this analysis, we review the evidence concerning whether such emissions will result in significant public health impacts or violate standards for public health protection.¹⁹

The evidence on public health was undisputed. (Exs. 14; 35; 47; 48; 54; 61; 63; 67; 93; Ex. 200, p. 4.7-1, et seq.; Exs. 203; 204; 11/30/09 RT 7-9.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

Project construction and operation will result in routine emissions of TACs. These substances are categorized as noncriteria pollutants because there are no ambient air quality standards established to regulate their emissions.²⁰ In the absence of standards, federal and state regulatory agencies have established health risk assessment procedures to evaluate potential health effects due to emissions of hazardous air pollutants. The San Joaquin Valley Air Pollution Control District (SJVAPCD) Rules, which incorporate federal and state risk assessment requirements for TAC emissions, apply to the GWF Tracy Project.

The health risk assessment consists of the following steps:

- Identify the types and amounts of hazardous substances that the GWF Project could emit into the environment;
- Estimate worst-case concentrations of project emissions into the environment using dispersion modeling;

¹⁹ This Decision discusses other potential public health concerns under the following topics. The accidental release of hazardous materials is discussed in **Hazardous Materials Management** and **Worker Safety and Fire Protection**. Electromagnetic fields are discussed in **Transmission Line Safety and Nuisance**. Potential impacts to soils and surface water sources are discussed in the **Soil and Water Resources** section. Potential exposure to contaminated soils and hazardous wastes is described in **Waste Management**. (Ex. 200, p. 4.7-9.)

²⁰ Criteria pollutants are discussed in the **Air Quality** section of this Decision, *ante*.

- Estimate amounts of pollutants to which people could be exposed through inhalation, ingestion, and dermal contact;²¹ and
- Characterize potential health risks by comparing worst-case exposure from the project with the scientific safety standards based on known health effects. (Ex. 200, p. 4.7-5.)

Typically, the initial health risk analysis is performed at a “screening level,” which is designed to estimate *potential* health risks. The risks for screening purposes are based on examining conditions that would lead to the highest, or worst-case, risks and then modeling those conditions to analyze results. Such health risks include:

- Using the highest levels of pollutants that could be emitted from the power plant;
- Assuming weather conditions that would lead to the maximum ambient concentration of pollutants;
- Using the type of air quality computer model which predicts the greatest plausible impacts;
- Calculating health risks at the location where the pollutant concentrations are estimated to be the highest;
- Assuming that an individual’s exposure to cancer-causing agents occurs continuously for 70 years; and
- Using health-based standards designed to protect the most sensitive members of the population (i.e., the young, elderly, and those with respiratory illnesses). (Ex. 200, p. 4.7-6.)

The risk assessment addresses three categories of potential health impacts:

1. acute (short-term) health effects;
2. chronic (long-term) non-cancer effects; and
3. cancer risk (also long-term).

Acute health effects result from short-term (one-hour) exposure to relatively high concentrations of pollutants. Chronic non-cancer health effects occur as a result

²¹ Exposure pathways, or ways in which people might come into contact with toxic substances, include inhalation, dermal (through the skin) absorption, soil ingestion, consumption of locally grown plant foods, and mother’s milk.

of long-term exposure (8 to 70 years) to lower concentrations of pollutants. (Ex. 200, p. 4.7-6.)

The analysis for acute and chronic health effects compares the maximum project contaminant levels to safe levels called “reference exposure levels” or RELs. These exposure levels are designed to protect the most sensitive individuals in the population such as infants, the elderly, people with pre-existing medical conditions, and environmental justice populations who are more susceptible to the effects of toxic substance exposure.²² The RELs are based on the most sensitive adverse health effects reported, and include margins of safety. (Ex. 200, p. 4.7-6.) The levels of acute and chronic health effects are calculated according to a *hazard index* (HI), which is a ratio comparing TAC exposure to the RELs. A ratio of less than 1.0 signifies that the worst-case exposure falls below the risk threshold level. The HI for every toxic substance with the same type of health effect is added to yield a Total HI, which is calculated separately for acute and chronic effects. A Total HI of less than 1.0 indicates that cumulative worst-case exposures are less than significant. (*Id.*, at 4.7-7.)

For carcinogenic substances, the health assessment considers the total risk from all cancer-causing chemicals from the source of emissions. The calculated risk is not meant to predict the *actual* expected incidence of cancer, but is rather a *theoretical* estimate based on worst-case assumptions. (Ex. 200, pp. 4.7-7 and 4.7-8.)

Cancer risk is expressed in cases per million, and is a function of the maximum expected pollutant concentration, the probability that a particular pollutant will cause cancer, and the length of the exposure period. The State of California has established “the risk level which represents no significant risk [...] is calculated to result in one excess case of cancer in an exposed population of 100,000, assuming lifetime exposure.” [Cal. Code Regs., tit. 22, § 12703(b).]²³ This risk level is equivalent to a cancer risk of 10 in one million, or 10×10^{-6} . The conservative nature of the screening assumptions means that actual cancer risks due to project emissions are likely to be considerably lower than those estimated. (Ex. 200, pp. 4.7-7 and 4.7-8; Ex. 14, § 5.9.4.1.3.)

²² The evidentiary record includes a list of sensitive receptors, including schools, hospitals, and residences, within a six-mile radius of the GWF Tracy site. (Ex. 47, Figure 5.9 A-1.)

²³ This regulation, which implements provisions of Proposition 65, the Safe Drinking Water and Toxic Enforcement Act of 1986, (Health & Saf. Code, § 25249.5 et seq.), provides guidance to several regulatory agencies in setting the threshold for significant cancer risk. The SJVAPCD also uses the 10 in one million threshold to determine significant cancer risk. (Ex. 200, p. 4.7-8.)

If the screening analysis predicts no significant risks, then no further analysis is required. However, if the predicted risk is significant, then further analysis using more realistic, site-specific assumptions is performed to obtain a more accurate assessment of potential health risks. If the site-specific analysis confirms that the risk exceeds the significance level, then appropriate mitigation measures are necessary to reduce the risk to less than significant. If a refined analysis identifies a cancer risk that exceeds the significance level after all risk reduction measures have been considered, then Staff would not recommend approval of the project. (Ex. 200, p. 4.7-8.)

Applicant and Staff quantified the project's expected TAC emissions during both construction and operation to determine the level of potential cancer and non-cancer health risks to the public. (Ex. 14, § 5.9.4.1, et seq.; Exs. 47; 48; 63; Ex 200, pp. 4.7-9 to 4.7-19.)

1. Construction

Potential construction-phase health impacts could occur from exposure to windblown dust from site excavation and grading. (Ex. 200, pp. 4.7-9 and 4.7-10.) Conditions of Certification **AQ-SC3** and **AQ-SC4** in the **Air Quality** section, *ante*, require the project owner to implement several mitigation measures to minimize construction-related fugitive dust and to protect on-site workers and members of the public from exposure to the dust.

It is well-established by both the U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB) that particulate emissions from diesel-fueled construction equipment could result in carcinogenic health effects. (Ex. 200, pp. 4.7-9 to 4.7-11; Ex. 6, § 5.1, **Table 5.1-4**; Ex. 33, **Appendix 5.1A**.) As discussed in the **Air Quality** section, *ante*, we have imposed specific mitigation measures to reduce diesel particulate emissions. Condition of Certification **AQ-SC5** requires the project owner to use ultra-low sulfur diesel fuel and Tier 2 or Tier 1 California Emission Standards for Off-Road Compression-Ignition Engines, or install an oxidation catalyst and soot filters on diesel equipment. (Ex. 200, p. 4.7-11.) In addition, worker exposure to diesel emissions will be controlled by implementation of safe work practices described in the **Worker Safety and Fire Protection** section of this Decision.

According to Applicant, the SJVAPCD does not require a health impact assessment of diesel emissions because the relatively short duration of project construction (estimated at 22 months) will not result in long-term public health

effects (typically 8 to 70 years). (Ex. 14, § 5.9.4.3.) Staff, however, conducted an independent assessment using CARB risk factors and found that all estimated airborne levels of diesel particulates were below the REL for chronic health effects and below the significance level for cancer risk. (Ex. 200, p. 4.7-10, **Public Health Table 2**.) Therefore, based on Staff's analysis, no significant health impacts are expected from construction-related diesel emissions. (*Id.*) Implementation of Condition of Certification **AQ-SC5** ensures that diesel-related health impacts will be reduced to insignificant levels.

2. Operation

During operations, the project's emission sources include two combustion turbine generators, one auxiliary boiler, one diesel-fueled fire pump, and one existing diesel-fueled emergency generator for a total of five emitting sources. (Ex. 200, p. 4.7-11; Ex. 93, p. 3.) TAC emissions from the project's emission sources could adversely affect public health. (Ex. 14, § 5.9.4.1.1 et seq., **Tables 5.9-2** and **5.9-3**; Exs. 35, 47, 48, 54; Ex. 200, pp. 4.7-11 to 4.7-13.)

As required by SJVAQMD, the Applicant conducted a screening-level health risk assessment according to procedures specified in the Office of Environmental Health Hazard Assessment (OEHHA) Hotspots Analysis and Reporting Program (HARP), CARB's Air Toxics Hot Spots Program Risk Assessment Guidelines, and SJVAPCD Guidance on Air Dispersion Modeling. (Ex. 14, § 5.9.4.1.; Ex. 200, pp. 4.7-11 to 4.7-13.)

The following receptor locations were identified in Applicant's health risk assessment:

- Point of Maximum Impact (PMI) for 70 year residential scenario:
 - a. PMI for cancer is located 200 meters south of the site boundary;
 - b. PMI for maximally exposed individual resident (MEIR) is located 1,100 meters southeast of the site;
 - c. PMI for chronic noncancer hazard is located at the southeast corner of the site boundary;
 - d. PMI for acute noncancer hazard is located along the site's western boundary. (Ex. 14, § 5.9.4.1.4, **Table 5.9-4**.)

The results of Applicant's risk assessment indicate a maximum acute Hazard Index (HI) of 0.8 and a maximum chronic HI of 0.07 at the points of maximum

impact. The maximum acute and chronic HIs calculated at the nearest sensitive receptor were 0.03 and 0.002, respectively. Staff's **Public Health Table 4**, below, shows that both acute and chronic hazard indices are less than 1.0, indicating that no short- or long-term adverse health effects are expected. In addition, the total worst-case individual cancer risk was calculated at 1.2 in one million at the PMI, which is below the significance threshold. (Ex. 200, p. 4.7-13.)

Public Health Table 4
Operation Hazard/Risk at Point of Maximum Impact: Applicant Assessment

<i>Type of Hazard/Risk</i>	<i>Hazard Index/Risk at PMI</i>	<i>Significance Level</i>	<i>Significant?</i>
Acute Noncancer	0.8	1.0	No
Chronic Noncancer	0.07	1.0	No
Individual Cancer	1.2 in a million	10.0 in a million	No

Source: Ex. 200, p. 4.7-13; Ex. 14, **Table 5.9-4**.

Staff conducted a quantitative evaluation of Applicant's risk assessment assumptions and results. (Ex. 200, pp. 4.7-13 to 4.7-18.) Staff's evaluation confirmed Applicant's results as shown below in Staff's **Public Health Table 6**.

Public Health Table 6
Results of Staff's Analysis and the Applicant's Analysis
for Cancer Risk and Chronic Hazard

	<i>Staff's Analysis</i>			<i>Applicant's Analysis</i>		
	Cancer Risk (per million)	Chronic HI	Acute HI	Cancer Risk (per million)	Chronic HI	Acute HI
PMI	2.6	0.073	0.84	1.2	0.07	0.8
MEIR	0.97	0.031	0.23	0.3	0.03	0.08

Source: Ex. 200, p. 4.7-15.

Finally, the SJVAQMD reviewed the modeling assumptions used in Applicant's risk assessment analysis and concluded that the results were acceptable. (Exs. 203, 204.)

3. Cumulative Impacts

Staff examined the incremental impact of project emissions in the context of existing and foreseeable emissions sources within a six-mile radius of the site. According to Staff, since the project's contributions to health risks are well below the cancer and non-cancer significance levels, the project is not expected to contribute significantly to a cumulative health impact. (Ex. 200, pp. 4.7-18 and 4.7-19.) See the **Air Quality** section, *ante*, for more discussion.

4. Public Comment

The Tusso families, who own a farm and several residences near the site, expressed concern that cancer-causing pollutants would fall directly on their land and that they would breathe potentially deadly air. In response, Staff explained that airborne concentrations of TACs emitted by the GWF Tracy Project would not contribute to any adverse health effects to any person, including a hypothetical individual who lives at the point of maximum impact (at the project site boundary) for 24 hours/day, 7 days/week for 70 years. Thus, the risk to these families and all other members of the public is much lower than that calculated at the point of maximum impact. (Ex. 200, p. 4.7-19.)

FINDINGS OF FACT

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

1. Construction and operation of the project will result in the routine release of criteria and noncriteria pollutants that have the potential to adversely impact public health.
2. Exposure to diesel particulate emissions from construction equipment is short-term and will not result in long-term carcinogenic or non-cancer health effects.
3. Exposure to construction-related diesel particulates will be mitigated to the extent feasible by implementing measures to reduce equipment emissions.
4. Exposure to fugitive dust due to excavation and construction activities will be mitigated to insignificant levels by implementing measures to reduce dust production and dispersal.

5. During operation, the project's emission sources include two combustion turbine generators, one auxiliary boiler, one diesel-fueled fire pump, and one existing diesel-fueled emergency generator.
6. Project emissions of criteria pollutants, as discussed in the **Air Quality** section of this Decision, will be mitigated to levels consistent with applicable federal and state standards.
7. Project emissions of noncriteria pollutants or toxic air contaminants were assessed according to procedures developed by federal and state regulatory agencies to evaluate potential health effects.
8. Applicant performed a screening health risk assessment of the potential health effects due to project emissions of toxic air contaminants.
9. The health risk assessment assumed worst-case exposure to toxic air contaminants by the most sensitive receptors, including children, the elderly, people with pre-existing health conditions, and environmental justice populations.
10. Results of the health risk assessment show that project emissions of toxic air contaminants will not cause acute or chronic non-cancer adverse public health effects or long-term carcinogenic effects at the points of maximum impact.
11. The points of maximum impact for acute, chronic, and carcinogenic effects are near the project fence line and do not extend to sensitive receptor locations.
12. The maximum cancer and non-cancer health risks associated with the project are substantially below the significance thresholds commonly accepted for risk analysis purposes.
13. The San Joaquin Valley Air Pollution Control District found that the modeling assumptions and results of the Applicant's risk assessment analysis were acceptable.
14. Since the project's contributions to health risks are well below the significance level, the project is not expected to contribute significantly to a cumulative health impact.

CONCLUSIONS OF LAW

1. Project emissions of toxic air contaminants do not pose a significant direct, indirect, or cumulative adverse public health risk.
2. With the implementation of the mitigation measures described in the evidentiary record and in the Conditions of Certification listed in the **Air Quality** section of this Decision, the project will not result in significant public health impacts during construction or operation.
3. The project will comply with the applicable laws, ordinances, regulations, and standards on public health referenced in the evidentiary record and as specified in the appropriate portion of **Appendix A** of this Decision.

There are no Conditions of Certification for this section of the Decision.

D. WORKER SAFETY AND FIRE PROTECTION

Industrial workers are exposed to potential health and safety hazards on a daily basis. Under both the federal and state Occupational and Safety Health Acts (OSHA/Cal-OSHA), standards have been established to reduce workplace hazards to minimal levels. In the following discussion, we review whether the project's health and safety plans are consistent with applicable LORS and sufficient to protect industrial workers. We also review the availability and adequacy of fire protection and emergency services to respond to the site in the event of fire or medical emergencies. The evidence on this topic was uncontroverted. (Exs. 21, 85; Ex. 200, p. 4.14-1 et seq.; 11/30/09 RT 7-9.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Worker Health and Safety

Industrial environments are potentially dangerous during construction, operation, and demolition activities. Workers at the GWF Tracy Project will be exposed to hazardous materials, fires, explosions, loud industrial noises, moving equipment, trenches, confined space entry and egress problems, and may experience various injuries. Applicable LORS require the project owner to implement specified policies and procedures, including worker training, hazard recognition and controls, and other measures to minimize injuries and protect workers. (Ex. 200, pp. 4.14-4 to 4.14-5; Ex. 21, § 5.16.4.2, **Tables 5.16-2, 5.16-3.**)

In compliance with applicable LORS, the project owner will develop and implement a Construction Safety and Health Program and an Operations and Maintenance Safety and Health Program, both of which must be approved by the Energy Commission's Compliance Project Manager prior to project construction and operation. These programs will incorporate several required protocols including the Injury and Illness Prevention Program, Personal Protective Equipment Program, Emergency Action Plan, Fire Protection and Prevention Plan, and other general safety procedures for both the construction and operation phases of the project. (*Id.*) Conditions of Certification **WORKER SAFETY-1** and **-2** ensure that these measures will be implemented. (Ex. 200, p. 4.14-4 et seq.; Ex. 21, § 5.16.4.2.1 et seq., **Table 5.16-2.**)

According to Staff, the regulatory agencies that enforce OSHA/Cal-OSHA standards recommend that an industrial project such as GWF Tracy employ a "competent person" who has knowledge and experience with enforcing

OSHA/Cal-OSHA rules. To ensure that appropriate worker safety standards are implemented, Condition **WORKER SAFETY-3** requires the project owner to employ a power plant Construction Safety Supervisor. Condition **WORKER SAFETY-4** requires the project owner to employ a Safety Monitor during project operation. These safety managers will coordinate and implement the Construction and Operation Safety and Health programs, as well as investigate any safety-related incidents and emergency responses. (Ex. 200, pp. 4.14-9 to 4.14-10.)

Staff also recommended that a portable automatic external defibrillator (AED) be available onsite to provide immediate response in the event of a medical emergency.²⁴ We have adopted Condition **WORKER SAFETY-5** to require the project owner to maintain an AED onsite at all times during construction and operation and to train appropriate personnel to use it. (Ex. 200, pp. 4.14-12 to 4.14-13.)

2. Fire Protection and Emergency Response

Project construction and operation pose the potential for both small fires and major structural fires. Electrical sparks, combustion of diesel fuel oil, natural gas, hydraulic fluid, mineral oil, insulating fluid or flammable liquids, explosions, and over-heated equipment could cause small fires. The project will rely upon both onsite and local fire protection services. (Ex. 200, p. 4.14-11; Ex. 21, § 5.15.4.5.)

Since the GWF Tracy site is within one mile of the City of Tracy, the Tracy Fire Department (TFD) will provide emergency and fire support services to the site. Conditions **WORKER SAFETY-1 and -2** require the project owner to consult with the TFD on designing Fire Prevention and Protection Plans for the construction and operation phases of the project. (Ex. 200, pp. 4.14-3; 4.14-11 to 4.14-12.)

During construction, the existing fire suppression system installed at the TPP site will be sufficient to ensure adequate fire protection. The TFD is available to provide fire protection backup for larger fires. (Ex. 200, p. 4.14-11.)

²⁴ According to Staff, both work-related and non work-related heart attacks could occur at power plants. The quickest medical intervention is achieved with the use of an on-site AED. Many modern industrial and commercial enterprises maintain AEDs for emergency use. We believe this is an appropriate safety measure. In all recent power plant licensing cases, we have required project owners to provide an onsite AED and to train personnel on how to use it. (Ex.200, pp. 4.14-12 to 4.14-13.)

During operation, the on-site fire suppression systems are the first line of defense against fire danger. According to Staff's testimony, the project will comply with all California Fire Code requirements, all applicable recommended National Fire Protection Association (NFPA) standards (including Standard 850 addressing fire protection at electric generating plants), and all Cal/OSHA requirements except for fire department access to the site (see discussion below). On-site fire suppression elements include both fixed systems and portable extinguishing systems. The existing TPP systems will be modified and upgraded to include the expansion structures and the capacity of the existing firewater tank will be increased from 250,000 gallons to 300,000 gallons. Also, a new electrical fire water pump and a diesel-driven fire pump will be added to accommodate the plant expansion. (Ex. 200, p. 4.14-11; Ex. 21, § 5.16.4.5.)

New fire hydrants will be installed per NFPA requirements and a fixed sprinkler system will be installed to protect the STG unit and associated lube oil system. Fire detection sensors will be placed throughout the system. Portable extinguishers will be located at the administrative building, other buildings, and throughout the facility at code-approved intervals per NFPA and Uniform Fire Code (UFC) requirements. Based on these measures, the evidence indicates that fire protection plans for the site will meet applicable standards. (Ex. 200, p. 4.14-12.)

Per the California Fire Code and the UFC, all power plants licensed by the Energy Commission must have a secondary access point for fire department vehicles and personnel to enter the site if the main gate is blocked. The initial project description for GWF Tracy did not identify a secondary access point equipped with a remote keyless entry system for use by the TFD. To mitigate this concern, Condition of Certification **WORKER SAFETY-6** requires the project owner to provide a second site access point for emergency vehicles and to equip the secondary entry gate with an approved method, such as the Opticom System, for fire department personnel to open the gate. (Ex. 200, p. 4.14-12.)

The closest fire station to the GWF Tracy site is TFD Fire Station #94, located at 16602 West Schulte Road, approximately 1.8 miles west of the site. The total response time from the moment a call is made to the point of arrival at the site is estimated at 3.5 minutes. Station #97, the next closest station, is located at 595 West Central Avenue, about five miles east of the site with an estimated response time of 10.5 minutes. (Ex. 21, § 5.16.4.5; Ex. 200, p. 4.14-3.)

Trained personnel at the project site will provide the initial response to hazardous materials incidents with backup support provided by the TFD. The TFD’s Hazardous Materials Team at Station #96, located at 301 West Grant Line Road, seven miles northeast of the site, can respond to the site within 14 minutes. (Ex. 21, § 5.16.4.5; Ex. 200, p. 4.14-3.) In the event of a large spill, the County Hazmat team, which consists of units from several fire departments, will be dispatched. The estimated response time for the County’s team ranges between one and two hours. All TFD firefighters are trained as first responders for hazardous materials incidents at the level of Emergency Medical Technician (EMT)-1. Five of TFD’s seven engines are staffed with a trained paramedic. (*Id.*).

Staff’s **Worker Safety and Fire Protection Table 2**, below, summarizes the TFD’s capability to respond to emergencies at the project site.

**Worker Safety and Fire Protection Table 2
Equipment and Personnel at Tracy Fire Department***

<i>TFD Station</i>	<i>Total Response Time**</i>	<i>Distance to GWF Tracy</i>	<i>EMS/HazMat Capability***</i>
Station #94	3.5 mi	~1.8 miles	Yes/No
Station #97	10.5 min	~5 miles	Yes/No
Station #96	14 min	~7 miles	Yes/Yes

Source: Ex. 200, p. 4.14-3

* Source: E-mail correspondence with Fire Captain Steve Hanlon (TFD 2009).

** Total response times are estimated from the moment a 911 call is made to arrival at the site and are dependent upon traffic conditions and other variables.

*** All personnel are trained to EMT-1 level and first responder for hazardous materials incidents.

Staff noted that the TFD was concerned that the GWF Tracy expansion at the TPP site could affect the fire department’s ability to adequately respond to all incidents in its jurisdiction due to the potential increase in calls from the project. (Ex. 200, p. 4.14-13.)

According to Staff, however, the expansion will not create an incremental or cumulative burden on the TFD’s ability to respond because the enhanced fire detection and suppression systems installed at the project site will provide adequate onsite response to emergencies. Additionally, Staff’s surveys of other city fire departments, power plant owners, and regulatory agencies establish that, historically, fire departments rarely are called upon to respond to power plant facilities. We find no evidence in the record to indicate that the GWF Tracy

expansion will significantly increase the need for emergency response. The TFD did not submit any rebuttal to Staff's analysis. (Ex. 200, p. 4.14-13.)

3. Soil Contamination

In addition to worker safety issues during construction and operation, the potential exists for worker exposure to contaminated soil during site preparation. The Phase I Environmental Site Assessment conducted for the original TPP site in 2001 did not identify any recognized environmental conditions on-site or within the ASTM search distance of one mile. However, to ensure that worker exposure to contaminated soil is minimized, Conditions of Certification **WASTE-1** and **WASTE-2** require the project owner to employ a registered professional engineer or geologist during soil excavation and grading to oversee proper handling and disposal of contaminated soil. See the **Waste Management** section of this Decision for a more detailed discussion. (Ex. 200, p. 4.14-3.)

FINDINGS OF FACT

Based on the uncontroverted evidence, the Commission makes the following findings.

1. Industrial workers at the GWF Tracy Project will be exposed to potential health and safety hazards on a daily basis.
2. To protect workers from job-related injuries and illnesses, the project owner will implement comprehensive Safety and Health Programs for both the construction and the operation phases of the project.
3. The project owner will employ an on-site professional Safety Monitor during both construction and operation phases of the project.
4. The project will include on-site fire protection and suppression systems as the first line of defense in the event of a fire.
5. The Tracy Fire Department (TFD) will provide fire protection and emergency response services to the project.
6. Existing fire and emergency service resources are adequate to meet project needs.
7. The GWF Tracy Project will not create cumulative adverse impacts upon the fire and emergency response capabilities of the TFD.

8. The project owner will maintain an automatic defibrillator on-site and train personnel on its use to provide immediate response in the event of a medical emergency.
9. The project's compliance with applicable LORS ensures that workers will be adequately protected from health and safety hazards.
10. To ensure that workers are protected from exposure to previously undetected soil contamination at the site, Conditions **WASTE-1** and **-2** in the **Waste Management** section of this Decision require the project owner to implement measures for the proper handling of contaminated soils.

CONCLUSIONS OF LAW

1. Implementation of the Conditions of Certification, below, and the mitigation measures contained in the evidentiary record will ensure that the project conforms with all applicable laws, ordinances, regulations, and standards on industrial worker health and safety as identified in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

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

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

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

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 Safety and Health Program.

At least 30 days prior to the start of construction, the project owner shall provide a copy of a letter to the CPM from the Tracy Fire Department stating the fire department's comments on the Construction Fire Prevention Plan and Emergency Action Plan.

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

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

The Operation Injury and Illness Prevention Plan, Emergency Action Plan, and Personal Protective Equipment Program shall be submitted to the CPM for review and comment concerning compliance of the programs with all applicable safety orders. The Fire Prevention Plan and the Emergency Action Plan shall also be submitted to the Tracy Fire Department for review and comment.

Verification: At least 30 days prior to the start of commissioning ("first fire"), the project owner shall submit to the CPM for approval a copy of the Project Operations and Maintenance Safety and Health Program.

At least 30 days prior to the start of construction, the project owner shall provide a copy of a letter to the CPM from the Tracy Fire Department stating the fire department's comments on the Operations Fire Prevention Plan and Emergency Action Plan.

WORKER SAFETY-3 The project owner shall provide a site Construction Safety Supervisor (CSS) who, by way of training and/or experience, is knowledgeable of power plant construction activities and relevant laws, ordinances, regulations, and standards; is capable of identifying workplace hazards relating to the construction activities; and has authority to take appropriate action to assure compliance and mitigate hazards. The CSS shall:

- Have overall authority for coordination and implementation of all occupational safety and health practices, policies, and programs;
- Assure that the safety program for the project complies with Cal/OSHA and federal regulations related to power plant projects;
- Assure that all construction and commissioning workers and supervisors receive adequate safety training;

- Complete accident and safety-related incident investigations and emergency response reports for injuries and inform the CPM of safety-related incidents; and
- Assure that all the plans identified in Conditions of Certification **WORKER SAFETY-1** and **-2** are implemented.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM the name and contact information for the Construction Safety Supervisor (CSS). The contact information of any replacement CSS shall be submitted to the CPM within one business day.

In the Monthly Compliance Report, the CSS shall submit a monthly safety inspection report to include:

- Record of all employees trained for that month (all records shall be kept on site for the duration of the project);
- Summary report of safety management actions and safety-related incidents that occurred during the month;
- Report of any continuing or unresolved situations and incidents that may pose danger to life or health; and
- Report of accidents and injuries that occurred during the month.

WORKER SAFETY-4 The project owner shall make payments to the Chief Building Official (CBO) for the services of a Safety Monitor based upon a reasonable fee schedule to be negotiated between the project owner and the CBO. Those services shall be in addition to other work performed by the CBO. The Safety Monitor shall be selected by and report directly to the CBO and will be responsible for verifying that the Construction Safety Supervisor, as required in Condition of Certification **WORKER SAFETY-3**, and for implementing all appropriate Cal/OSHA and Energy Commission safety requirements. The Safety Monitor shall conduct on-site (including linear facilities) safety inspections at intervals necessary to fulfill those responsibilities.

Verification: Prior to the start of construction, the project owner shall provide proof of its agreement to fund the Safety Monitor services to the CPM for review and approval.

WORKER SAFETY-5 The project owner shall ensure that a portable automatic external defibrillator (AED) is located on site during construction and operations and shall implement a program to ensure that workers are properly trained in its use and that the equipment is properly maintained and functioning at all times. During construction and commissioning, the following persons shall be trained in its use and shall be on site whenever the workers that they supervise are on site: the Construction Project Manager or delegate, the Construction

Safety Supervisor or delegate, and all shift foremen. During operations, all power plant employees shall be trained in its use. The training program shall be submitted to the CPM for review and approval.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit to the CPM for review and approval proof that a portable automatic external defibrillator (AED) exists on site and a copy of the training and maintenance program.

WORKER SAFETY-6 The project owner shall identify and provide a second access point for emergency personnel to enter the site. This access point and the method of gate operation shall be submitted to the Tracy Fire Department for review and comment and to the CPM for review and approval.

Verification: At least 60 days prior to the start of commissioning ("first fire"), the project owner shall submit to the Tracy Fire Department and the CPM preliminary plans showing the location of a second access point to the site and a description of how the gate will be opened by the fire department.

At least 30 days prior to the start of commercial operations, the project owner shall submit final plans to the CPM review and approval. The final plan submittal shall also include a letter containing comments from the Tracy Fire Department or a statement that no comments were received.

E. HAZARDOUS MATERIALS MANAGEMENT

This analysis considers whether the construction and operation of the GWF Tracy will create significant impacts to public health and safety resulting from the use, handling, or storage of hazardous materials.²⁵ Several locational factors affect the potential for project-related hazardous materials to cause adverse impacts. These include local meteorological conditions, terrain characteristics, any special site factors, and the proximity of population centers and sensitive receptors. (Ex. 200, p. 4.4-5.) In addition, sensitive subgroups such as the young, elderly, and those with existing conditions may be at risk from exposure to emitted pollutants. (Ex. 200, pp. 4.4-5, 4.4-6.)

The evidence of record incorporates these factors in the analysis of potential impacts.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Potential Risks Posed by the Use, Storage, and Transport of Hazardous Materials and Mitigation.

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

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

²⁵ The **Worker Safety** and **Fire Protection** portion of this Decision analyzes the protection of workers from such risks.

- An analysis of the theoretical impacts on the public of a worst-case spill of hazardous materials even with the mitigation measures proposed.

Hazardous materials, such as mineral and lubricating oils, cleaning detergents, welding gasses, water treatment chemicals, and other various materials will be present at the facility. (Ex. 200, pp. 4.4-7, 4.4-29 to 4.4-30.) Attachment 1 (referenced and incorporated in Condition **HAZ-1** at the end of this section) identifies the hazardous materials that will be used and stored on-site. Hazardous materials used during the construction phase include gasoline, diesel fuel, motor oil, hydraulic fluid, solvents, cleaners, welding gases, lubricants, solvents, paint, and paint thinner. (Ex. 200, p. 4.4-2.) No acutely toxic hazardous materials will be used on-site during construction. (Ex. 200, p. 4.4-2.)

The evidence of record is clear that, but for aqueous ammonia, none of the hazardous materials that will be used during the project's construction and operation pose a significant potential for off-site impacts. (Ex. 200, p. 4.4-8.) This determination is based on the quantities on-site, the substances' relative toxicity, physical state, or environmental mobility/volatility. (Ex. 10; Ex. 200, pp. 4.4-7 to 4.4-9.)

a. Natural Gas

Project operations will involve the handling – but not storage – of significant quantities of natural gas. (Ex. 200, pp. 4.4-2, 4.4-7.) The gas will be delivered by Pacific Gas and Electric Company (PG&E) through an existing pipeline that already serves the Tracy Peaker Project (TPP) and neither off-site piping nor additional pressurizing equipment is required. (Exs. 4, p. 4-1; 200, pp. 4.4-7 to 4.4-8.) The evidence shows that, while natural gas poses some risk of both fire and explosion, this risk can be reduced to insignificant levels through adherence to applicable codes and the development and implementation of effective safety management practices. (Ex. 200, p. 4.4-7.)

The evidence is similarly in accord that GWF Tracy's compliance with applicable codes that incorporate measures such as the use of double-block and bleed valves for secure shut off, automated combustion controls, air purging of gas turbines prior to start up, will suffice to adequately minimize the potential for off-site impacts. (Ex. 200, p. 4.4-8.) Furthermore, the Applicant's safety management plan will significantly reduce the potential for equipment failure caused by improper maintenance and human error. (Ex. 200, p. 4.4-8.)

b. Aqueous Ammonia

Aqueous ammonia (29.5 percent ammonia in an aqueous solution) will be used in controlling the emission of oxides of nitrogen (NO_x) from the combustion of natural gas at GWF Tracy. (Exs. 10, p. 5.5-24; 200, pp. 4.4-1, 4.4-8.) It is the only acutely hazardous material to be used or stored at GWF Tracy in significant quantities.²⁶ (Ex. 200, p. 4.4-1.) The evidence of record is in accord that aqueous ammonia is the only hazardous material that could realistically, without proper mitigation, pose a significant risk of off-site impact. (Ex. 200, p. 4.4-8.) This could result from the accidental release of ammonia vapor in the event of a spill. (Ex. 200, p. 4.4-8.) The evidence contains a detailed analysis of both the potential impacts resulting from an ammonia spill and the adequacy of measures available to limit the severity of any impacts. (Ex. 200, pp. 4.4-8 to 4.4-9.)

i. Use and Storage

The use of aqueous ammonia rather than the far more hazardous anhydrous ammonia significantly reduces off-site risks. (Ex. 200, pp. 4.4-1, 4.4-8.) Anhydrous ammonia is stored as a liquefied gas at high pressure and could explode in an accidental release, resulting in high downwind concentrations. Aqueous ammonia spills are much easier to contain, and emissions from such spills are limited by the slow mass transfer from the surface of the spilled material. (Ex. 200, pp. 4.4-1 to 4.4-2.)

GWF Tracy will store the aqueous ammonia in an existing aboveground storage tank with a maximum capacity of 9,000 gallons. (Exs. 10, p. 5.5-18 to 5.5-19; 200, p. 4.4-8.) The ammonia storage tank is double walled and includes a secondary containment basin surrounding the tank. (Ex. 200, p. 4.4-8.)

The evidence shows that Staff used several benchmark exposure levels of ammonia gas occurring off-site to assess the potential impacts associated with an accidental release of aqueous ammonia. (Ex. 200, pp. 4.4-8 to 4.4-9, see also, Ex. 200, p. 4.4-23.) These include:

- a. The lowest concentration posing a risk of lethality, i.e., 2,000 parts per million (ppm);
- b. The concentration immediately dangerous to life and health, a level of 300 ppm;

²⁶ No more than 9,000 gallons will be stored on-site at any given time. (Ex. 10, p. 5.5-19; Ex. 200, p. 4.4-8.)

- c. The emergency response planning guideline level 2 of 150 ppm, which is also the Risk Management Plan (RMP) level 1 criterion used by U.S. Environmental Protection Agency (U.S. EPA) and California; and
- d. The level of 75 ppm, considered by Staff to be without serious adverse effects on the public for a one-time exposure.

For possible exposure associated with a potential release exceeding 75 ppm at any public receptor, Staff also assessed the probability of occurrence of the release, the severity of the consequences, and the nature of the potentially exposed population in determining whether the likelihood and extent of exposure would be significant.²⁷ (Ex. 200, pp. 4.4-8 to 4.4-9, 4.4-24 to 4.4-25.)

Staff independently corroborated the Applicant's modeling-based findings that ammonia concentrations exceeding 75 ppm would not occur at any off-site location for alternative or worst-case scenarios. (Ex. 200, p. 4.4-9.) The Applicant's findings, which are contained in the Offsite Consequence Analysis (OCA) it previously prepared for the original TPP Application for Certification process, involved a spill during truck unloading, which would drain from the sloped truck unloading area through a 10-inch pipe into the underground containment vault beneath the storage tanks. (Exs. 10, p. 5.5-19; 23; 200, p. 4.4-9.) Ammonia emissions from the two potential release scenarios were calculated following methods provided by the U.S. Environmental Protection Agency. (Exs.10, pp. 5.5-19 to 5.5-20; 200, p. 4.4-9.) Under the worst-case release scenario, Applicant's modeling results show that concentrations on ammonia from the GWF Tracy site are estimated to fall below 75 ppm at approximately 119 feet from the truck unloading area, and does not extend offsite. (Ex. 10, p. 5.5-21.)

ii. Transportation and Delivery

Hazardous materials including aqueous ammonia will be transported to GWF Tracy by tanker truck. (Ex. 200, p. 4.4-11.) At a maximum, the facility will require five tanker truck deliveries a month of aqueous ammonia per year. (Ex. 10, p. 5.5-24.) The tanker truck will be a Department of Transportation (DOT) certified vehicle with design capacities of 6,700 gallons. (Exs. 10, p. 5.5-24; 200, p. 4.4-12.)

²⁷ Staff's Hazardous Materials Appendix A (Ex. 200, pp. 4.4-24 to 4.4-25) discusses the criteria for ammonia exposure guidelines, their applicability to sensitive populations, and exposure-specific conditions.

Applicant and Staff each analyzed the risks associated with the transportation of hazardous materials – with emphasis on aqueous ammonia – in the vicinity of the project site. (Exs. 10, p. 5.5-27; 17, pp. 5.12-21 to 5.1- 22; 200, pp. 4.4-12 to 4.4-13.) This evidence shows that the potential for accidental release during transport is exceedingly low, and that compliance with the existing body of regulations covering the transportation of hazardous materials, as well as the use of the type of delivery vehicle specified in Condition of Certification **HAZ-4**, will ensure that the risk to the public of exposure to significant concentrations of aqueous ammonia remain less than significant. (Ex. 200, pp. 4.4-12 to 4.4-17.) Condition of Certification **HAZ-5** specifies requirements for allowable vendor delivery routes. (Ex. 200, pp. 4.4-13, 4.4-17, 4.4-18.)

2. Engineering and Administrative Controls

Engineering controls and administrative controls affect the significance of potential impacts from hazardous materials usage. Engineering controls are those physical or mechanical systems (such as storage tanks or automatic shut-off valves) that can prevent a hazardous material spill from occurring, limit the spill to a small amount, or can confine it to a small area. (Ex. 200, p. 4.4-10.)

The engineered safety features that will be used at GWF Tracy include:

- Use of the present secondary containment areas plus the addition of any needed areas for the few additional chemicals to be used, surrounding each of the hazardous materials storage areas designed to contain accidental releases that might happen during storage or delivery plus the volume of water associated with a 20-minute operation of fire suppression sprinklers;
- Physical separation of stored chemicals in isolated containment areas separated by a noncombustible partition in order to prevent accidental mixing of incompatible materials, which could result in the evolution and release of toxic gases or fumes;
- Installation of both an automatic sprinkler system and an exhaust system for indoor hazardous materials storage areas;
- Use of the present double-walled ammonia storage tank equipped with a bermed secondary containment basin;

- Use of the present underground tank located below the ammonia unloading area designed to collect any accidental releases during transfer; and
- Process protective systems including continuous tank level monitors, automated leak detection system, temperature and pressure monitors, alarms, excess flow and emergency isolation valves. (Ex. 200, p. 4.4-10)

Administrative controls are those rules and procedures that workers at the facility must follow. These are designed to help prevent accidents or keep them small if they do occur. (Ex. 200, p. 4.4-6.) These are specified at length in the evidence of record. (Ex. 200, pp. 4.4-10 to 4.4-11.) In both cases, the goal is to prevent a spill from moving off-site and causing harm. Timely and adequate emergency spill response is also a crucial factor. (Ex. 200, pp. 4.4-11.)

The evidence convinces us that the proposed Conditions of Certification adequately and appropriately prevent the occurrence of significant adverse impacts from the storage and transportation of hazardous materials that will be used during the construction and the operation of GWF Tracy.

Worker training programs, process safety management programs, and compliance with all applicable health and safety laws, ordinances, regulations and standards will also reduce risks. The worker health and safety program that will be prepared by the project owner will include (but not be limited to) the following elements:

- Worker training regarding chemical hazards, health and safety issues, and hazard communications;
- Procedures to ensure the proper use of personal protective equipment;
- Safety operating procedures for the operation and maintenance of systems utilizing hazardous materials;
- Fire safety and prevention; and
- Emergency response actions including facility evacuation, hazardous material spill clean-up, and fire prevention. (Ex. 200, pp. 4.4-10 to 4.4-11.)

To address the issue of spill response, the facility will prepare and implement an emergency response plan that includes information on hazardous materials contingency and emergency response procedures, spill containment and prevention systems, personnel training, spill notification, on-site spill containment, and prevention equipment and capabilities, as well as other

elements. (Ex. 200, p. 4.4-11.) Emergency procedures will be established, which include evacuation, spill cleanup, hazard prevention, and emergency response.

Designated plant personnel would be trained as first responders and as hazardous material technicians to form a plant Hazmat response team. In the event of a large spill, backup support would be provided by the City of Tracy Fire Department and San Joaquin County's Hazmat team. The available Hazmat teams are capable of responding to a hazardous materials emergency call from GWF Tracy with an adequate response time. (Ex. 200, p. 4.4-11.)

3. Site Security

Applicant proposes to use hazardous materials identified by the USEPA as requiring the development and implementation of special site security measures to prevent unauthorized access. (Ex. 200, p. 4.14.)

The project site would be located within the existing TPP site and would therefore be protected by the security measures already in place for the TPP. (Ex. 200, p. 4.4-15.) Applicant has provided an outline for a Security Plan that includes a description of perimeter fencing and breach detectors, alarms, site access procedures for employees and vendors, site personnel background checks, evacuation procedures, and law enforcement contacts in the event of a security breach. (Exs. 10, pp. 5.5-27 to 5.5-28; 200, pp. 4.4 -14 to 4.4-15.) Staff has previously conducted an audit of the security measure for the TPP and found those measures to be excellent. (Ex. 200, p. 4.4-15.) Therefore, no additional security measures other than new federal requirements are proposed for the operation phase of this project. These new requirements are proposed in Condition **HAZ-7**. (Ex. 200, pp. 4.4.15, 4.4-18 to 4.4-19.)

The only portion of the GWF Tracy Project that would be located outside the TPP fence-line is the 12.3-acre construction lay down and parking area. (Exs. 2, p. 2-1; 200, p. 4.4-15.) Compliance with Condition of Certification **HAZ-6**, which requires Applicant to prepare a construction security plan that would include a description of perimeter security for the lay down area, will secure the project during construction. (Ex. 200, pp. 4.4-15; 4.4-18.)

4. Cumulative Risks

The evidence includes a cumulative risk assessment for GWF Tracy in conjunction with existing locations and facilities in the area. A significant

cumulative impact is the simultaneous uncontrolled release of hazardous materials from multiple locations in a form (gas or liquid) that could cause a significant impact where the release of one hazardous material alone would not cause a significant impact.

The evidence shows that a the risk assessment included identifying existing facilities and locations near GWF Tracy that use or store gaseous or liquid hazardous materials, or nearby locations where such facilities might likely be built. (Exs. 10, pp. 5.5-22 to 5.5-23; 11, pp. 5.6-23 to 5.6-26; 200, p. 4.4-15.) The evidence shows that because significant impacts from the accidental release of hazardous materials stored at the site will be limited to the site, none of the identified locations, facilities, or projects has the potential to contribute to a hazardous materials cumulative impact. (Ex. 200, p. 4.4-15.) Applicant is required nonetheless to develop and implement a hazardous materials handling program for GWF Tracy independent of any other projects considered for potential cumulative impacts. (Ex. 200, p. 4.4-15.)

Moreover, it is unlikely that an accidental release, which has a very low probability of occurrence, would independently occur at the project and at another facility at the same time. (Ex. 200, p. 4.4-15.)

Based on the evidence of record, the facility as proposed by Applicant and with the additional mitigation measures proposed by Staff, poses an insignificant risk of accidental release that could result in off-site impacts.

FINDINGS OF FACT

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

1. GWF Tracy will use hazardous materials during construction and operation, including aqueous ammonia and natural gas.
2. The major public health and safety hazard associated with these hazardous materials is the catastrophic release of aqueous ammonia, such as the accidental release or aqueous ammonia stored on site.
3. Potential impacts from the other hazardous substances used on-site are not considered significant since quantities will be limited and appropriate storage will be maintained in accordance with applicable law.

4. Staff's independent analysis indicated that appropriate design measures to contain spilled ammonia are necessary to ensure that no significant off-site public health consequences will result from an accidental ammonia release.
5. A concentration of 75 ppm or less would not cause significant adverse impacts. A worst-case catastrophic release of aqueous ammonia from GWF Tracy will not pose a hazard to the public, nor result in off-site concentrations greater than 75 ppm in populated areas or in areas with sensitive receptors.
6. Compliance with appropriate engineering, administrative, and regulatory requirements for safe transportation, delivery, and storage of aqueous ammonia will reduce potential risks of accidental release to insignificant levels.
7. The risk of fire and explosion from natural gas will be reduced to insignificant levels through adherence to applicable codes and the implementation of effective safety management practices.
8. The evidence of record establishes that the hazardous materials used in the construction and operation of GWF Tracy, when considered in conjunction with those used at other facilities in the project vicinity, will not cumulatively result in a significant risk to the public.
9. Implementation of the mitigation measures described in the evidentiary record and contained in the Conditions of Certification, below, ensures that the project will not cause significant impacts to public health and safety as the result of the handling, storage, or transportation of hazardous materials.
10. With implementation of the Conditions of Certification, below, GWF Tracy will comply with all applicable laws, ordinances, regulations, and standards related to hazardous materials management as identified in the evidentiary record.

CONCLUSION OF LAW

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

CONDITIONS OF CERTIFICATION

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

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

HAZ-2 The project owner shall provide an updated Hazardous Materials Business Plan to the San Joaquin County Environmental Health Department (SJCEHD) and the Tracy Fire Department for review and to the CPM for review and approval.

Verification: At least thirty (30) days prior to receiving any hazardous material on the site for the commencement of commissioning (“first fire”), the project owner shall provide a copy of the Hazardous Materials Business Plan to the CPM for approval.

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

Verification: At least thirty (30) days prior to the delivery of any liquid hazardous material to the facility for commissioning, the project owner shall provide a Safety Management Plan as described above to the CPM for review and approval.

HAZ-4 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 thirty (30) days prior to receipt of aqueous ammonia on site for commissioning, 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-5 At least thirty (30) days prior to receipt of any hazardous materials on site, the project owner shall direct all vendors delivering any hazardous material to the site to use only the route approved by the CPM. Trucks will travel on I-580 to Patterson Pass Rd. to West Schulte Rd. to the plant site or on I-205 to Mountain House Rd. to West Schulte Rd. to the plant site. The project owner shall obtain approval of the CPM if an alternate route is desired.

Verification: At least thirty (30) days prior to receipt of any hazardous materials on site, the project owner shall submit to the CPM for review and

approval copies of notices to hazardous materials vendors describing the required transportation route.

HAZ-6 Prior to commencing construction, a site-specific Construction Site Security Plan for the construction phase shall be prepared and made available to the CPM for review and approval. The Construction Security Plan shall include the following:

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

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

HAZ-7 The project owner shall also prepare an updated site-specific security plan for the commissioning and operational phases that will be available to the CPM for review and approval. The project owner shall implement site security measures that address physical site security and hazardous materials storage. The level of security to be implemented shall not be less than that which presently exists at the Tracy Peaker Project site with the following additions:

The Operation Security Plan shall include the following:

1. Written standard procedures for employees, contractors, and vendors when encountering suspicious objects or packages on site or off site;
2. A statement (refer to sample, **Attachment A**), signed by the project owner certifying that background investigations have been conducted on all project personnel. Background investigations shall be restricted to determine the accuracy of employee identity and employment history and shall be conducted in accordance with state and federal laws regarding security and privacy;
 - B. A statement(s) (refer to sample, **Attachment B**), signed by the contractor or authorized representative(s) for any permanent contractors or other technical contractors (as determined by the

CPM after consultation with the project owner), that are present at any time on the site to repair, maintain, investigate, or conduct any other technical duties involving critical components (as determined by the CPM after consultation with the project owner) certifying that background investigations have been conducted on contractors who visit the project site;

3. A statement(s) (refer to sample, **Attachment C**), signed by the owners or authorized representative of hazardous materials transport vendors, certifying that they have prepared and implemented security plans in compliance with 49 CFR 172.880, and that they have conducted employee background investigations in accordance with 49 CFR Part 1572, subparts A and B;

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

Verification: At least thirty (30) days prior to the start of commissioning (“first fire”), the project owner shall notify the CPM that an updated site-specific operations site security plan is available for review and approval. In the annual compliance report, the project owner shall include a statement that all current project employee and appropriate contractor background investigations have been performed, and that updated certification statements have been appended to the operations security plan. In the annual compliance report, the project owner shall include a statement that the operations security plan includes all current hazardous materials transport vendor certifications for security plans and employee background investigations.

Hazardous Materials

Hazardous Materials Proposed for Use at the GWF Tracy Project

Material	CAS No.	Application	Hazardous Characteristics	Maximum Quantity On Site
Acetylene	74-86-2	Welding gas	Health: hazardous if inhaled Physical: combustible, flammable	650 ft ³
Aqueous Ammonia (29.5% NH ₃ by weight)	7664-41-7	Control oxides of nitrogen (NOx) emissions through selective catalytic reduction	Health: irritation to permanent damage from inhalation, ingestion, and skin contact Physical: reactive, vapor is combustible	67,000 pounds
Carbon Monoxide (Balance Nitrogen)	630-08-0	CEMS Calibration Std.	Health: headaches, dizziness, convulsions, loss of consciousness, death Physical: flammable	1,600 ft ³
Citric Acid	77-92-9	Cleaning reverse osmosis units	Health: none Physical: non-flammable	Varies as needed (approx 100 pounds)
Cleaning chemicals/detergents for Turbine Wash	None	Periodic cleaning of combustion turbine	Health: refer to individual chemical labels Physical: refer to individual chemical labels	Varies as needed (approx 100 gallons)
Diesel No. 2	None	Fuel for fire pump engine/off-road vehicles	Health: may be carcinogenic Physical: flammable	200 gallons
General Dispersant – Cyanamer P-70	Proprietary	Anti-scalant Dispersant	Health: may irritate eyes and skin Physical: non-flammable	55 gallons
Hydraulic Oil	None	High-pressure combustion turbine starting system, turbine control valve actuators	Health: hazardous if ingested Physical: combustible	500 gallons
Hydrochloric Acid	7647-01-0	Lube Oil Cooler (WSAC) pH control	Health: strongly corrosive and toxic, toxic by ingestion, strong irritant to eyes and skin Physical: non-flammable	Varies as needed (approx 100 gallons)
Laboratory Reagents	None	Water/wastewater laboratory analysis	Health: refer to individual chemical labels Physical: refer to individual chemical labels	10 gallons liquids 100 pounds solids
Lubrication Oil	None	Lubricate rotating equipment (e.g., gas turbine and steam turbine bearings)	Health: hazardous if ingested Physical: flammable	40,000 gallons

Material	CAS No.	Application	Hazardous Characteristics	Maximum Quantity On Site
Mineral Insulating Oil	8012-95-1	Transformers/switch yard	Health: hazardous if ingested Physical: may be flammable/combustible	80,000 gallons
Nitric Oxide (balance Nitrogen)	10102-43-9	CEMS Calibration Std.	Health: irritating to eyes and respiratory system, cyanosis, inhalation may result in chemical pneumonitis and pulmonary edema Physical: non-flammable	2,200 ft ³
Oxygen/Acetylene	7782-44-7	Welding Gas	Health: therapeutic overdoses can cause convulsions, liquid oxygen is an irritant to skin Physical: oxidizing agent, actively supports combustion	880 cubic feet
Permatreat PC-191	Proprietary	Scale inhibitor for reverse osmosis	Health: may cause irritation with prolonged contact Physical: non-flammable	400 gallons
Propylene Glycol	57-55-6	Antifreeze	Health: causes irritation Physical: combustible	2,000 gallons
Sodium Hydroxide (NaOH) (50% solution)	1310-73-2	Convert CO ₂ to alkalinity for removal by reverse osmosis	Health: corrosive, irritant to tissue in presence of moisture, strong irritant to tissue by ingestion Physical: non-flammable	500 gallons
Sodium Hypochlorite	7681-52-9	Water Treatment	Health: corrosive and toxic, toxic by ingestion, strong irritant to tissue Physical: fire risk when in contact with organic materials	120 gallons
Sodium Nitrate A DHS CFATS Chemical of Interest (must be <400 pounds)	7631-99-4	Cleaning of HRSG	Health: toxic, mildly toxic by ingestion Physical: non-flammable	Varies as needed (approx 500 pounds)
Sulfur Hexafluoride	2551-62-4	Switchyard/switchgear devices	Health: hazardous if inhaled Physical: non-flammable	200 pounds
Sulfuric Acid (Lead-Acid Batteries)	7664-93-9	Battery Electrolyte	Health: strongly corrosive, strong irritant to all tissue, minor burns to permanent damage to tissue Physical: non-flammable	3,000 pounds
Trisodium Phosphate (Na ₃ PO ₄) (e.g., NALCO 7208)	7601-54-9	Boiler water alkalinity control	Health: corrosive and toxic, toxic by ingestion, irritant to tissue Physical: non-flammable	400 gallons

Source: Ex. 200.

SAMPLE CERTIFICATIONS

(Attachments A, B, and C)

SAMPLE CERTIFICATION (Attachment A)

Affidavit of Compliance for Project Owners

I,

(Name of person signing affidavit)(Title)

do hereby certify that background investigations to ascertain the accuracy of the identity and employment history of all employees of:

(Company name)

For employment at:

(Project name and location)

have been conducted as required by the California Energy Commission Decision for the above-named project.

(Signature of officer or agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

SAMPLE CERTIFICATION (Attachment B)

Affidavit of Compliance for Contractors

I,

(Name of person signing affidavit)(Title)

do hereby certify that background investigations to ascertain the accuracy of the identity and employment history of all employees of:

(Company name)

for contract work at:

(Project name and location)

have been conducted as required by the California Energy Commission Decision for the above-named project.

(Signature of officer or agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

SAMPLE CERTIFICATION (Attachment C)

Affidavit of Compliance for Hazardous Materials Transport Vendors

I,

(Name of person signing affidavit)(Title)

do hereby certify that the below-named company has prepared and implemented security plans in conformity with 49 CFR 172.880 and has conducted employee background investigations in conformity with 49 CFR 172, subparts A and B:

(Company name)

for hazardous materials delivery to:

(Project name and location)

as required by the California Energy Commission Decision for the above-named project.

(Signature of officer or agent)

Dated this _____ day of _____, 20 _____.

THIS AFFIDAVIT OF COMPLIANCE SHALL BE APPENDED TO THE PROJECT SECURITY PLAN AND SHALL BE RETAINED AT ALL TIMES AT THE PROJECT SITE FOR REVIEW BY THE CALIFORNIA ENERGY COMMISSION COMPLIANCE PROJECT MANAGER.

F. WASTE MANAGEMENT

The GWF Tracy Project will generate nonhazardous and hazardous wastes during construction and operation. This section reviews the project's waste management plans for reducing the risks and environmental impacts associated with handling, storage, and disposal of project-related nonhazardous and hazardous wastes. The evidence on this topic was undisputed.

Nonhazardous wastes are degradable or inert materials, which do not contain concentrations of soluble pollutants that could degrade water quality and are therefore eligible for disposal at Class II or III disposal facilities. (Cal. Code Regs., tit. 14, § 17200 et seq.)

Hazardous waste consists of materials that exceed criteria for toxicity, corrosivity, ignitability, or reactivity as established by the California Department of Toxic Substances Control (DTSC).²⁸ State law requires hazardous waste generators to obtain U.S. EPA identification numbers and contract with registered hazardous waste transporters to transfer hazardous waste to appropriate Class I disposal facilities. (Cal. Code Regs., tit. 22, § 66262.10 et seq.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Site Excavation

The certification process requires a Phase I Environmental Site Assessment (ESA) to provide the history of how the site has been used and a list of hazardous waste releases on or near the site to document the presence of any actual or potential soil or water contamination. If the Phase I ESA finds a reasonable likelihood that the site contains hazardous substances, a Phase II ESA must be conducted to analyze the contamination and to establish a remediation plan. A Phase I ESA was performed at the project site in 2001 for the original Tracy Power Plant in accordance with the American Society for Testing and Materials (ASTM) Standard Practice E 1527-05 for ESAs. An updated Phase I ESA was prepared in June 2008 for the new GWF Tracy Project. (Ex. 53; Ex. 200, pp. 4.13-5 -- 4.13-7.)

²⁸ California Health and Safety Code, section 25100 et seq. (Hazardous Waste Control Act of 1972, as amended) and Title 22, California Code of Regulations, Section 66261.1 et seq.

The 2001 ESA found no evidence of any recognized environmental conditions (RECs) at the project site or at off-site locations within the one-mile ASTM search distance from the site.²⁹ The 2001 ESA found that prior to development of the original Tracy Power Project, the site had been used for commercial agriculture. This previous use indicates the potential for impacts from hazardous pesticides not detected at the soil surface due to agricultural tilling. However, the 2008 ESA did not address the potential presence of legacy agricultural chemicals remaining in site soils. (Ex. 53; Ex. 200, p. 4.13-7.)

To protect the public and construction workers from exposure to persistent agricultural chemicals, we adopt Staff's recommended Conditions of Certification **WASTE-1** and **WASTE-2** to mitigate any previously unrecognized contaminated soils that could be encountered during construction and operation. The Conditions require a registered professional geologist or engineer with experience in remedial investigation to monitor demolition, excavation, and grading activities and to determine whether soil sampling and remediation should be required. (Ex. 200, p. 4.13-10.) We believe that implementation of these Conditions will reduce any exposure to contaminated soils to insignificant levels.

2. Construction

Site preparation and construction of the power plant and its associated facilities will generate both nonhazardous and hazardous wastes in solid and liquid forms. (Ex. 1, § 5.14.4; Ex. 200, p. 4.13-7.) Condition **WASTE-3** requires the Project Owner to develop and implement a Demolition and Construction Waste Management Plan that identifies all waste streams and the methods of managing each waste.

a. Nonhazardous Wastes

Construction of the GWF Tracy Project will generate about 150 tons of nonhazardous solid waste products comprised of scrap wood, concrete, steel/metal, paper, glass, and plastic waste. (Ex. 1, § 5.14.4.1.1, table 5.14-2.) These wastes will be recycled where practical. Non-recyclable wastes will be collected and deposited pursuant to applicable LORS. (Ex. 200, p. 4.13-8.)

²⁹ An REC is considered to be the presence or likely presence of any hazardous substances or petroleum products on a property under the conditions that indicated an existing release, past release, or a material threat of a release of any hazardous substance or petroleum products into structures on the property or in the ground, groundwater, or surface water of the property.

Non-hazardous liquid wastes will also be generated during construction, including sanitary wastes, dust suppression drainage, and equipment wash water. Sanitary wastes will be collected in portable, self-contained toilets and transported for disposal at an appropriate facility. Stormwater runoff will be managed in accordance with the project's Stormwater Pollution Prevention Plan (SWPPP). The **SOIL AND WATER RESOURCES** section of this Decision includes a more detailed discussion of project wastewater. (Exs. 1, § 5.14.4.1.2; 200, p. 4.13-8.)

b. Hazardous Wastes

Hazardous wastes generated during construction include solvents, waste paint, solvents, oil, oily rags, batteries, cleaning wastes, spent welding materials, and empty hazardous material containers. Many of these wastes will be recycled under the "excludable recyclable" provisions of Title 22 of the California Health and Safety Code. (Ex. 1, § 5.14.4.1.3, table 5.14-2.)

Hazardous wastes, which cannot be recycled, will be accumulated onsite for less than 90 days and then manifested, transported, and disposed at a permitted Class I hazardous waste management facility by licensed hazardous waste collection and disposal companies. The disposal methods described in the evidentiary record indicate that hazardous wastes will be handled in accordance with all applicable LORS. (Exs. 1, § 5.14.4.3.2, table 5.14-2; 200, p. 4.13-9.)

Condition of Certification **WASTE-4** requires the Project Owner to obtain a unique hazardous waste generator identification number for the site prior to construction. Condition **WASTE-5** requires the Project Owner to notify the Energy Commission's Compliance Project Manager (CPM) whenever a regulatory agency initiates any waste management enforcement action relating to the GWF Tracy Project or its waste disposal contractors. (Ex. 200, p. 4.13-9.)

3. Operation

Condition **WASTE-6** requires the Project Owner to develop and implement an Operation Waste Management Plan to identify all waste streams and the methods of managing each waste. (Ex. 200, p. 4.13-10.)

a. Nonhazardous Wastes

About five tons of nonhazardous solid wastes generated during project operation will include routine maintenance wastes (such as used rags, air filters, scrap metal, and plastics) and spent CO oxidation catalyst from the air emissions control equipment), as well as domestic/sanitary and office wastes (such as office paper, newsprint, aluminum cans, glass, and septic system sludge). All non-hazardous wastes will be recycled to the extent feasible, and non-recyclable wastes will be regularly transported offsite to a local solid waste disposal facility. Nonhazardous liquid wastes generated during project operation are discussed in the **SOIL AND WATER RESOURCES** section of this Decision. (Exs. 1, § 5.14.4.2, table 5.14-3; 200, p. 4.13-10.)

b. Hazardous Wastes

Condition **WASTE-4**, *supra*, which requires the Project Owner to obtain a hazardous waste generator identification number, applies during project operation. Hazardous solid wastes generated during routine project operation will include oil filters and oily rags, spent Selective Catalytic Reduction (SCR) and oxidation catalysts, waste paint and empty containers, as well as batteries, fluorescent light tubes, and similar items. Hazardous liquid wastes include used crankcase oil, used hydraulic oil, chemical cleaning solutions, spent solvents, combustion turbine generator wash water and hydrocarbon contaminated water reclaimed from the oil/water separator. (Ex. 1, § 5.14.4.2.3, table 5.14-3.)

The amount of hazardous waste generated during project operation is considered low due to source reduction and recycling when feasible. Hazardous wastes will be temporarily stored onsite and transported by licensed hazardous waste haulers to authorized disposal facilities in accordance with LORS applicable to generators of hazardous waste. Condition **WASTE-5**, *supra*, requires the Project Owner to report any waste management-related enforcement action during project operations. (Ex. 200, p. 4.13-11.)

Spills and unauthorized releases of hazardous materials or hazardous wastes may result in contaminated soils. To ensure proper cleanup and management of contamination due to spills, Condition **WASTE-7** requires the Project Owner/Operator to report, clean up, and remediate as necessary, any hazardous materials spills or releases in accordance with applicable law. See also, the **HAZARDOUS MATERIAL MANAGEMENT** section of this Decision. (Ex. 200, p. 4.13-11.)

4. Potential Impacts on Waste Disposal Facilities

Applicant's **WASTE TABLE 5.14-4** identifies four local Class III waste disposal facilities (one transfer station and three landfills) that could potentially receive the nonhazardous construction and operation wastes generated by the project.³⁰ (Ex. 1, § 5.14.4.3, table 5.14-4.) The combined remaining capacity for these landfills is over 120 million cubic yards. The total amount of nonhazardous waste generated from project construction and operation will contribute less than one percent of the available landfill capacity. Thus, disposal of the solid wastes generated by GWF Tracy will not significantly impact the capacity or remaining life of any of these facilities. (Ex. 200, pp. 4.13-11 to 4.13-12.)

Hazardous wastes are eligible for transport to two of California's available Class I landfills: Clean Harbors Buttonwillow Landfill in Kern County and the Chemical Waste Management Kettleman Hills Landfill in Kings County. The Kettleman Hills facility also accepts Class II, and III waste. In addition, there are several other certified hazardous waste disposal facilities throughout California. Evidence indicates there is sufficient capacity at these facilities to handle the project's hazardous wastes during its operating lifetime. (Exs. 1, § 5.14.4.3.2; 200, p. 4.13-12.)

Regarding potential cumulative impacts, the quantities of solid and hazardous wastes generated by the GWF Tracy Project will add to the total quantities of waste generated by new residential and commercial development in California. However the GWF Tracy Project's waste stream is relatively low, recycling efforts will be prioritized, and sufficient disposal capacity is available. As a result, the project's cumulative impacts on disposal facilities will be insignificant for both nonhazardous and hazardous waste disposal. (Ex. 200, p. 4.13-12.)

5. Public Comment

The owners of an agricultural property adjacent to the project site submitted a letter concerning the potential increase of hazardous waste from the new GWF Tracy facility. The record establishes that the amount of hazardous waste generated by the project will not adversely affect existing hazardous waste recycling or disposal capacity. (Ex. 200, p. 4.13-13.)

³⁰ The four facilities include the Tracy Material Recovery and Transfer Facility in Tracy, the Foothill Sanitary Landfill in Linden, the Vasco Road Landfill in Livermore, and the Altamont Landfill in Livermore. (Ex. 1, § 5.14.4.3, table 5.14-4.)

FINDINGS OF FACT

Based on the uncontroverted evidence, the Commission makes the following findings:

1. A Phase I Environmental Site Assessment (ESA) was performed at the project site in 2001 for the original Tracy Power Project and an updated Phase I ESA was prepared in June 2008 for the new GWF Tracy Project.
2. The ESAs found no evidence of any recognized environmental conditions at the project site or at off-site locations within a one-mile radius of the site.
3. Prior to development of the Tracy Power Project, the site had been used for commercial agriculture, which indicates the potential for impacts from persistent hazardous pesticides not detected at the soil surface.
4. The Project Owner will implement appropriate characterization, disposal, and remediation measures to ensure that the risk of exposure to contaminated soils at the site or along the linear corridors is reduced to insignificant levels.
5. The project will generate nonhazardous and hazardous wastes during demolition, excavation, construction, and operation.
6. The project will recycle nonhazardous and hazardous wastes to the extent feasible and in compliance with applicable law.
7. Hazardous wastes that cannot be recycled will be transported by registered hazardous waste transporters to appropriate Class I landfills.
8. Solid nonhazardous wastes that cannot be recycled will be deposited at Class II and III landfills in the local area.
9. Liquid wastes will be classified for appropriate disposal and managed in accordance with the Conditions of Certification listed in the **SOIL AND WATER RESOURCES** section of this Decision.
10. Disposal of project wastes will not result in any significant direct, indirect, or cumulative impacts on existing waste disposal facilities.

CONCLUSIONS OF LAW

1. Implementation of 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.
2. The management of project wastes will comply with all applicable laws, ordinances, regulations, and standards related to waste management as identified in the pertinent portions of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

WASTE-1 The project owner shall provide the resume of an experienced and qualified professional engineer or professional geologist, who shall be available for consultation during site characterization (if needed), demolition, excavation, and grading activities, to the CPM for review and approval. The resume shall show experience in remedial investigation and feasibility studies. The professional engineer or professional geologist shall be given full authority by the project owner to oversee any earth moving activities that have the potential to disturb contaminated soil.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the resume to the CPM for review and approval.

WASTE-2 If potentially contaminated soil is identified during site characterization, demolition, excavation, or grading at either the proposed site or linear facilities, as evidenced by discoloration, odor, detection by handheld instruments, or other signs, the professional engineer or professional geologist shall inspect the site, determine the need for sampling to confirm the nature and extent of contamination, and provide a written report to the project owner, representatives of Department of Toxic Substances Control, and the CPM stating the recommended course of action. Depending on the nature and extent of contamination, the professional engineer or professional geologist shall have the authority to temporarily suspend construction activity at that location for the protection of workers or the public. If, in the opinion of the professional engineer or professional geologist, significant remediation may be required, the project owner shall contact the CPM and representatives of the Department of Toxic Substances Control for guidance and possible oversight.

Verification: The project owner shall submit any final reports filed by the professional engineer or professional geologist to the CPM within five days of

their receipt. The project owner shall notify the CPM within 24 hours of any orders issued to halt construction.

WASTE-3 The project owner shall prepare a Demolition and Construction Waste Management Plan for all wastes generated during demolition and construction of the facility and shall submit the plan to the CPM for review and approval. The plan shall meet the requirements of the San Joaquin County Solid Waste Division Waste Diversion Plan and shall contain, at a minimum, the following:

1. A description of all construction waste streams, including projections of frequency, amounts generated, and hazard classifications;
2. A survey of structures to be demolished that identifies the types of waste to be managed;
3. Completed San Joaquin County, Solid Waste Division, Waste Diversion Forms (Form A - Construction and Form B - Demolition); and
4. Management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans.

Verification: The project owner shall submit the Construction Waste Management Plan to the CPM for approval no less than 30 days prior to the initiation of construction activities at the site.

WASTE-4 The project owner shall provide a hazardous waste generator identification number to the CPM prior to generating any hazardous waste during construction and operations.

Verification: The project owner shall provide the USEPA hazardous waste generator identification number to the CPM prior to the start of construction and maintain a copy of the identification number on file at the project site for the life of the project.

WASTE-5 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 would be required in the way project-related wastes are managed.

WASTE-6 The project owner shall update their current Operation Waste Management Plan for all wastes generated during operation of the modified facility and shall submit the plan to the CPM for review and approval. The plan shall meet the requirements of the San Joaquin County Solid Waste Division Waste Diversion Plan. The plan shall contain, at a minimum, the following:

1. A detailed description of all operation and maintenance waste streams, including projections of amounts to be generated, frequency of generation, and waste hazard classifications;
2. Management methods to be used for each waste stream, including temporary on-site storage, housekeeping and best management practices to be employed, treatment methods and companies providing treatment services, waste testing methods to assure correct classification, methods of transportation, disposal requirements and sites, and recycling and waste minimization/source reduction plans;
3. Information and summary records of conversations with the local Certified Unified Program Agency and the Department of Toxic Substances Control regarding any waste management requirements necessary for project activities. Copies of all required waste management permits, notices, and/or authorizations shall be included in the plan and updated as necessary;
4. A detailed description of how facility wastes will be managed and any contingency plans to be employed, in the event of an unplanned closure or planned temporary facility closure;
5. Completed San Joaquin County, Solid Waste Division, Waste Diversion Forms (Form C – Operations Waste Diversion Plan); and
6. A detailed description of how facility wastes will be managed and disposed upon closure of the facility.

Verification: The project owner shall submit the Operation Waste Management Plan to the CPM for approval no less than 30 days prior to the start of project operation. The project owner shall submit any required revisions to the CPM within 20 days of notification from the CPM that revisions are necessary.

The project owner shall also document in each Annual Compliance Report the actual volume of wastes generated and the waste management methods used during the year; provide a comparison of the actual waste generation and management methods used to those proposed in the original Operation Waste Management Plan; and update the Operation Waste Management Plan as necessary to address current waste generation and management practices.

WASTE-7 The project owner shall ensure that all spills or releases of hazardous substances, hazardous materials, or hazardous waste are reported, cleaned up, and remediated as necessary, in accordance with all applicable federal, state, and local requirements.

Verification: The project owner shall document all unauthorized releases and spills of hazardous substances, materials, or wastes that occur on the project property or related pipeline and transmission corridors. The documentation shall include, at a minimum, the following information: location of release; date and time of release; reason for release; volume released; amount of contaminated soil/material generated; how release was managed and material cleaned up; if the release was reported; to whom the release was reported; release corrective action and cleanup requirements placed by regulating agencies; level of cleanup achieved and actions taken to prevent a similar release or spill; and disposition of any hazardous wastes and/or contaminated soils and materials that may have been generated by the release. Copies of the unauthorized spill documentation shall be provided to the CPM within 30 days of the date the release was discovered.

VI. ENVIRONMENTAL ASSESSMENT

A. BIOLOGICAL RESOURCES

The Commission must consider the potential impacts of project-related activities on biological resources, including state and federally listed species, species of special concern, wetlands, and other topics of critical biological interest such as unique habitats. The review contained in the record describes the biological resources in the vicinity of the project site and linear alignments, assesses the potential for adverse impacts, and determines whether mitigation measures are necessary to ensure compliance with applicable laws, ordinances, regulations, and standards (LORS). (Exs. 7, 38, 39, 58, 61, 64, 72; 200 pp. 4.2-1 to 4.2-25.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Existing Vegetation, Wildlife, and Habitats

The site for the proposed GWF Tracy project is located on a 40-acre parcel in an unincorporated portion of San Joaquin County immediately southwest of Tracy. The new power plant would occupy 16.38 acres of the 40-acre parcel which was previously used as the temporary staging and parking area for the construction of the existing Tracy Power Plant (TPP). Included in this acreage would be 3.28 acres of new permanent disturbance for a relocated storm water retention basin. The construction parking and lay down area for the proposed project would temporarily occupy a 12.3-acre previously-disturbed portion of the 40-acre parcel. Three segments of transmission line that would require reconductoring for the project are located within agricultural areas or occur along existing county roads or major highways. (Ex. 200, p. 4.2-5.)

The evidence shows that biological surveys were conducted by the Applicant in 2001 for the TPP and reconnaissance surveys were conducted in 2007 and 2008 for GWF Tracy. (Ex. 1, p. 5.2-8.) A list of species observed during those surveys is provided in the AFC. (Ex. 1, tables 5.2-2 and 5.2-3.) Habitats within one mile of the GWF Tracy project area and reconductoring segments were assessed for potential to support special-status plants and animals, and habitats within 10 miles were assessed for potential to support nesting Swainson's hawks. (Exs. 7, p. 5.2-8; 200, p. 4.2-5.)

Many of the proposed GWF Tracy project features would be located within the existing fenced TPP site, which comprises structures, paved roads, a storm water basin, and gravel-topped open spaces. Within the fenced area, there is no bare soil or landscaping. The remainder of the 40-acre parcel is characterized by ruderal nonnative grasses on leveled former agricultural land that lacks surface hydrology, seasonal ponding, and native vegetation. (Ex. 7, p. 5.2-15.) The parcel has been disturbed by current and past industrial and agricultural development and, aside from the nonnative grasslands, is currently maintained with ornamental plantings, cultivation, and weed control. (Ex. 7, p. 5.2-13.)

Existing habitats, including the developed TPP site, support reptile, bird, and mammal species common to the San Joaquin Valley including western fence lizard (*Sceloporus occidentalis*), red-tailed hawk (*Buteo jamaicensis*), rock dove (*Columba livia*), black phoebe (*Sayornis nigricans*), western kingbird (*Tyrannus verticalis*), European starling (*Sturnus vulgaris*), western meadowlark (*Sturnella neglecta*), black-tailed hare (*Lepus californicus*), house mouse (*Mus musculus*), and coyote (*Canis latrans*). (Ex. 7, p. 5.2-13.) The GWF Tracy site, while providing no vegetation, would support roosting and perching for local passerines and raptors and there is evidence that California ground squirrels (*Spermophilus beecheyi*) and cottontails (*Sylvilagus audubonii*) enter the area inside the security fence.

All three reconductoring segments are either within agricultural developments or adjacent to existing roads. Wildlife using these areas would be similar to what is described above. However, segment 3 crosses two riparian corridors: Paradise Cut and Tom Paine Slough, both of which are sensitive habitats and important for special-status species. (Ex. 200, p. 4.2-6.)

Special-status species are defined in the FSA as plant and animal species that are state or federally listed or proposed for listing; state fully protected; candidates for state or federal listing; state species of special concern, and California Native Plant Society (CNPS) List 1B or List 2 plants. (Ex. 200, p. 4.2-6.) **Biological Resources Table 1** below lists 19 special-status species in the project area likely to be impacted by the project as shown in the AFC. (Ex. 7, table 5.2-4.)

Biological Resources Table 1
Special-status Species Potentially Occurring
In or Near the GWF Tracy Project Area

Common Name	Scientific Name	Status*
Plants		
Suisun marsh aster	<i>Aster lentus</i>	HCP/List 1B.2
Big tarplant	<i>Blepharizonia plumosa</i>	List 1B.1
Round-leaved filaree	<i>California macrophylla</i>	List 1B.1
Lemmon's jewelflower	<i>Caulanthus coulteri</i> var. <i>lemmonii</i>	List 1B.2
Slough thistle	<i>Cirsium crassicaule</i>	HCP/List 1B.1
Delta button-celery	<i>Eryngium racemosum</i>	SE/1B.1
Mason's lilaeopsis	<i>Lilaeopsis masonii</i>	HCP/List 1B.1
Wright's trichocoronis	<i>Trichocoronis wrightii</i> var. <i>wrightii</i>	List 2.1
Caper-fruited tropidocarpum	<i>Tropidocarpum capparideum</i>	List 1B.1
Invertebrates		
Valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FE/HCP
Reptiles		
San Joaquin whipsnake	<i>Masticophis flagellum ruddocki</i>	CSC
Birds		
Tricolored blackbird	<i>Agelaius tricolor</i>	CSC/HCP
Burrowing owl	<i>Athene cunicularia</i>	CSC/HCP
Swainson's hawk	<i>Buteo swainsoni</i>	ST/HCP
Northern harrier	<i>Circus cyaneus</i>	CSC
White-tailed kite	<i>Elanus leucurus</i>	FP
Loggerhead shrike	<i>Lanius ludovicianus</i>	CSC/HCP
Mammals		
American badger	<i>Taxidea taxus</i>	CSC
San Joaquin kit fox	<i>Vulpes macrotis mutica</i>	FE/CT/HCP

* FE = federally endangered; FT = federally threatened; FC = federal candidate for listing; SE = state endangered; ST = state threatened; SCL = state candidate for listing; CSC = California species of special concern; FP=fully protected under Fish and Game Code, i.e., no take is allowed; HCP = San Joaquin multi-species conservation plan; California Native Plant Society List 1B = rare, threatened, or endangered in California and elsewhere; List 2 = rare, threatened, or endangered in California but more common elsewhere.

Source: Ex. 200, p. 4.2-7

Some species known to occur in the region were excluded from consideration in the impact assessment because there is no suitable habitat for them in or near the project area. There are no vernal pools in or near the project area, so vernal pool branchiopods, California tiger salamanders (*Ambystoma californiense*), and

western spadefoots (*Spea hammondi*) were excluded from further consideration. The silvery legless lizard (*Anniella pulchra*) requires open areas with sparse vegetation and moist soils, conditions not found in the project area. Similarly, the coast horned lizard (*Phrynosoma coronatum frontale*) prefers sandy soils in areas of sparse vegetation and is therefore not likely to occur. The foothill yellow-leg frog (*Rana boylei*) requires rocky streams with flowing, highly oxygenated water; such streams do not occur in the project area. Although the California red-legged frog (*Rana draytonii*) is known to travel in straight-line routes between suitable aquatic sites and could therefore potentially occur in many otherwise-unsuitable locations, the distance to suitable aquatic habitats makes their potential for occurrence on the GWF Tracy site remote. The same is true for the western pond turtle (*Actinemys marmorata*). There is no suitable giant garter snake (*Thamnophis gigas*) habitat near the project site and they were not considered in this assessment. (Ex. 200, p. 4.2-8.)

Ferruginous hawks (*Buteo regalis*) and merlins (*Falco columbarius*) are winter visitors and do not nest in Central California – they could avoid foraging near disturbing activities. Golden eagles (*Aquila chrysaetos*) were eliminated because there is no suitable nesting habitat nearby. The California horned lark (*Eremophila alpestris actia*) prefers habitats that are less vegetated than the project site and less disturbed than the reconductoring sites. There are no potentially affected marshes or riparian zones likely to support yellow-headed blackbirds (*Xanthocephalus xanthocephalus*), western yellow-billed cuckoos (*Coccyzus americanus occidentalis*), yellow-breasted chats (*Icteria virens*), riparian brush rabbits (*Sylvilagus bachmani riparius*), and riparian woodrats (*Neotoma fuscipes riparia*). (*Id.*)

The San Joaquin pocket mouse (*Perognathus inornatus*) occurs in sandy soils at the base of shrubs in open grassland and scrub areas with little disturbance, conditions not found at the site. The Townsend's big-eared bat (*Corynorhinus townsendii*) prefers more mesic sites and is extremely sensitive to human disturbance; it is not likely to roost or forage near the project site. The two bat species most likely to occur in the Tracy area, the pallid bat (*Antrozous pallidus*) and the western mastiff bat (*Eumops perotis*), are known to roost in Corral Hollow but are not likely to roost in or near the project site. (*Id.*)

Of the nine special-status plants known to occur within five miles of the site, five are known to occur within one mile of the site. These are caper-fruited tropidocarpum, big tarplant, Suisun Marsh aster, Delta button-celery, and Wright's trichocoronis. However, conversion of these natural habitats to agricultural use has eliminated habitats capable of supporting special-status

plants at and near the project site. Surveys in 2001 and 2007 were negative. (Ex. 7, pp. 5.2-14 to 5.2-15.) All reconductoring work sites are in highly altered landscapes where special-status plants would be highly unlikely to occur. (Ex. 200, p. 4.2-9.)

There are no aquatic habitats in the project area that could potentially support special-status aquatic wildlife. The evidence shows that burrowing owls and San Joaquin kit foxes occur within one mile of the GWF Tracy and reconductoring sites (Ex. 200, p. 4.2-9) and that Northern harrier, Swainson's hawk, and loggerhead shrike were observed on or near the project site during 2007 and 2008 surveys. (Ex. 7, p. 5.2-11.)

The open ruderal fields of the project area, including recent tree plantings associated with TPP visual screening, provide tree- and ground-nesting opportunities for a variety of medium to small birds. Transmission towers and trees in the area could support nesting raptors as well as ravens (*Corvus corax*) and crows (*Corvus brachyrhynchos*), which are all protected by the Migratory Bird Treaty Act (MBTA). Elements of the new GWF Tracy plant would provide additional perches for raptors and other birds. Birds of otherwise open country take advantage of human-made structures to rest and to hunt. A great horned owl nest was discovered at the TPP in 2008. The unit was operated for maintenance purposes and the owls were apparently not disturbed. The adult and juvenile owls stayed at the site. (Ex. 200, p. 4.2-10.)

2. Direct and Indirect Impacts and Mitigation

a. Construction Impacts and Mitigation

Construction of the project would involve demolition of some existing TPP components and erection of several new components, including two 150-foot exhaust stacks 17 feet in diameter, a 50-foot auxiliary boiler stack, and an air-cooled condenser that would be 114 feet tall, 234 feet long, and 215 feet wide. Construction would take place over a period of approximately 22 months. During the construction period, a total of 12.3 acres of the 40-acre parcel would be used for temporary lay down and parking areas. These areas would be outside the currently fenced TPP site and would be restored to pre-project conditions at the end of construction. (Ex. 200, p. 4.2-11.)

Construction impacts to vegetation could occur in a variety of ways, including the direct removal of plants during construction. As these impacts are generally localized and are primarily temporary, they are not usually considered significant

unless the habitat type is regionally unique or is known to support special-status species. Regionally unique habitat or habitat capable of supporting special-status plants is not present at the site. Significant impacts to native vegetation and special-status plants would not be expected and no mitigation is proposed. (Ex. 200, p. 4.2-12.)

Direct loss of small mammals, reptiles, and other less-mobile species could occur from the use of construction vehicles, which could collapse underground burrows or drive over animals. Construction activities and increased human presence could disrupt breeding or foraging activities of some common wildlife species for the duration of construction. Wildlife and nests within the staging area would be at risk when equipment is moved. Construction activities during the nesting season (March through August) could adversely affect breeding birds through direct take or through disruption or harassment. Noise, vibration and artificial lighting during construction can also have adverse impacts upon these species. (*Id.*)

When the TPP was constructed, 34.6 acres of the 40-acre parcel were temporarily or permanently disturbed. GWF Energy purchased habitat mitigation credits totaling \$58,474 for those 34.6 acres. Because GWF Tracy would take place on the same 34.6 acres that were mitigated previously, no further mitigation would be required for the new plant site; however, other incidental take minimization measures would be required. The Applicant has proposed impact avoidance and minimization measures for biological resources. We agree with Commission staff's recommendation that we adopt these Applicant-proposed measures and have incorporated them into the Conditions of Certification below which we adopt in this decision. These Conditions of Certification protect burrowing owl, San Joaquin kit fox and other species during construction and particularly during breeding season. Conditions of Certification **BIO-6** through Condition **BIO-10** outline a number of impact avoidance and minimization measures for species including measures specific to protection of kit foxes and burrowing owls, which would also be protective of American badgers. Specifically, Condition **BIO-8** would require preconstruction surveys, which would detect the presence of nesting birds and of dens that could potentially support fossorial animals both within and adjacent to the 40-acre parcel, while Conditions **BIO-9** and **BIO-10** describe what the Applicant would do to protect individual animals that might be found occupying those dens, and Condition **BIO-6** (preparation and implementation of a mitigation and monitoring plan) and Condition **BIO-7** (impact avoidance measures) describe how nesting birds would be protected. (Ex. 200, pp 4.2-12 to 4.2-13.)

The undeveloped portions of the 40-acre parcel could also support foraging special-status wildlife including kit foxes, burrowing owls, badgers, San Joaquin whipsnakes, Swainson's hawks, northern harriers, white-tailed kites, and loggerhead shrikes. These portions of the parcel would be restored to pre-project conditions at the end of construction. (Ex. 200, p. 4.2-14.)

Conditions of Certification **BIO-1** through **BIO-10** would prevent impacts or mitigate them to less-than-significant levels. Conditions of Certification **BIO-6** through **BIO-10** are described above. Conditions of Certification **BIO-1** through **BIO-4** would require the presence of a Designated Biologist or biological monitors to ensure the safety of general and special-status wildlife. Condition of Certification **BIO-5** would make workers aware of sensitive wildlife and how to protect them through a worker environmental awareness program.

Electric interconnection would require the removal of old conductors and the installation of new conductors on three short segments (segments 1, 2, and 3 totaling approximately 3 miles) of existing 115-kilovolt (kV) PG&E transmission line. Ground-disturbing activities would be limited to parking vehicles along the alignments, and would require minimal vegetation disturbance and ground leveling. Most of the alignment follows existing busy roads and active agricultural fields, so pull sites would most likely be in previously disturbed areas. (Ex. 200, p. 4.2-17.) We adopt Condition of Certification **BIO-11** to require that reconductoring take place outside the breeding season to avoid impacts to nesting birds and Conditions of Certification **BIO-6** through **BIO-10** to require protection of special-status species, preconstruction surveys, and development of incidental take minimization measures.

b. Operations Impacts

GWF Tracy operation would cause impacts from operational noise and vibration and from lights at night. Its structures would increase the risk of electrocution and avian collision. Its air emissions could impact plant life.

The evidence shows that design elements incorporated into the project to minimize noise and vibration and the Applicant's compliance with noise LORS will ensure that operational noise and vibration would not have a significant adverse effect on local wildlife. No noise impact avoidance, minimization, or mitigation measures are proposed beyond those Conditions of Certification proposed in the **NOISE** section of this Decision. (Ex. 7, p. 5.2-30.)

GWF Tracy would be operational 24 hours a day, so night lighting for security would be required. We adopt staff-proposed Condition of Certification **VIS-5** for to ensure adequate lighting with the minimum possible impact. (Ex. 7, pp. 5.13-14.) Because the purpose of additional lighting required by GWF Tracy is to illuminate the surfaces and ground plane of the facility, the lighting fixtures would be similarly shielded and hooded. All additional exterior lights would be hooded, and lights would be directed on site so that significant light or glare would be minimized. Low-pressure sodium lamps and fixtures of a non-glare type would be specified. For areas where lighting is not required for normal operation, safety, or security, switched lighting circuits would be provided, allowing these areas to remain dark at most times. (Exs. 7, pp. 5.2-25 to 5.2-26; 200, p. 4.2-20.)

Evidence in the record establishes that the site is already degraded and lighted, does not provide essential habitat for sensitive wildlife, and that any affected wildlife would either grow accustomed to the additional lighting or increase their distance from it. Those factors, plus Conditions of Certification **VIS-5** and **BIO-7**, which we adopt in this Decision, convince us that there will be no adverse unmitigated impacts to wildlife due to lighting at GWF Tracy.

There is a well-documented risk of avian collision with structures taller than the features of the natural landscape. Nighttime risk is significantly higher than daytime risk, and certain types of night lighting actually increase collision risk. GWF Tracy would have stacks 50 feet taller than the existing stacks, which are already taller than anything in the surrounding landscape. The new 150-foot-tall stacks would have catwalks at about 135 feet that are proposed to be continually lighted at night with low-intensity indirect lighting. The other tall structures would be lighted similarly. Condition of Certification **BIO-7** requires that lighting be selected and operated so as to minimize the risk of avian collision, and we find that implementation of these requirements will reduce the risk of avian collision to below the level of significance.

Avian electrocution can occur as a result of contact with transmission lines and related equipment. However, the proposed reconductoring would not increase the risk of electrocution because it would not change the existing conditions. Potential electrocution impacts would be mitigated by incorporating the construction design recommendations provided in *Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 2006* as discussed in the FSA. (Ex. 200, p. 4.2-21.) This measure has been incorporated into Condition of Certification **BIO-7** to reduce the risk of avian mortality from electrocution below the level of significance.

Certain plant species and communities are highly sensitive to air pollutants such as carbon monoxide (CO), oxides of sulfur (SO_x), and nitrogen oxides (NO_x). GWF Tracy would emit nitrogen oxides and other air pollutants during the course of normal operation. Increased nitrogen could then give a nonnative species a competitive advantage over a native species allowing it to take over. Impacts could extend to such wildlife as a butterfly that depends for survival on the native species that may no longer be able to thrive due to the increased nitrogen. (Exs. 7, p. 5.2-26; 200, p. 4.2-21.)

NO_x emissions were fully offset for the TPP. For GWF Tracy, the Applicant's NO_x mitigation exceeds the amount required by over 53 tons per year. (Ex. 7, p. 5.2-26.) While NO_x offsets and mitigation credits would not necessarily reduce impacts in the immediate vicinity of GWF Tracy, the evidence of record leads us to conclude that air emissions would not have a significant impact on sensitive plants or plant communities. This is because the project would minimize air pollutant emissions using best-available control technology and would comply with air-quality standards, and because there are no nitrogen-limited or otherwise sensitive habitats within at least 5 miles of the project site. With the implementation of the conditions of certification we have adopted in the **AIR QUALITY** section of this decision, we find that air emissions would not adversely affect biological resources at GWF Tracy.

3. Cumulative impacts

A project could result in a significant adverse cumulative impact where its effects are cumulatively considerable. Cumulatively considerable means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, of other current projects, and of probable future projects (Cal. Code Regs., tit. 14, § 15130.) A cumulatively considerable impact would be a significant loss of essential habitat for special-status species that was not mitigated to a less-than-significant level. (Ex. 200, p. 4.2-22.)

The proposed GWF Tracy site is located adjacent to agricultural fields, the Owens-Brockway Glass Container manufacturing plant, the Nutting-Rice Warehouse, and the Tracy Biomass Power Plant, and is 1.5 miles from a meat packing plant. The proposed project would be modifying an existing power plant in an industrialized area and would be constructed entirely within the previous TPP development. (Ex. 7, p. 5.2-30; Ex. 200, p. 4.2-22.)

Construction would temporarily disturb 12.3 acres of ruderal upland that would be restored to pre-project conditions at the end of construction. The project would permanently remove 3.28 acres of ruderal upland for a relocated stormwater retention basin. These temporary and permanent impacts to habitats take place within the 34.6 acres of habitat that were mitigated for the TPP; these impacts would not require additional mitigation. (*Id.*)

On the basis of the evidence of record, we find that the GWF Tracy project would not contribute to cumulatively considerable impacts. Moreover, construction and operational impacts would be minimized through implementation of the proposed Conditions of Certification. The project would not result in the loss of habitat that was not already mitigated for the existing TPP.

FINDINGS OF FACT

Based on the persuasive weight of the evidence of record, we find as follows:

1. The project site provides little or no habitat value for common or special status plant or animal species.
2. No special status species exist on the project site or along the linear corridors.
3. The project will not create significant adverse effects to any protected species.
4. ERC's are an approved programmatic method of reducing adverse regional emission impacts, in this instance those caused by NO_x. GWF Tracy will provide NO_x ERCs consistent with SJVAQMD requirements. This adequately mitigates GWF Tracy's contribution to nitrogen deposition impacts.
5. GWF Tracy's structures would not increase the risk of avian collisions because they would not be different from existing conditions.
6. GWF Tracy would not contribute to a cumulatively considerable impact on biological resources because disturbance and construction impacts would be minimized through implementation of proposed Conditions of Certification, and because the loss of 3.28 acres of ruderal upland habitat was mitigated at the time of the TPP.

CONCLUSION OF LAW

1. We therefore conclude that implementation of the Conditions of Certification contained in the **Air Quality, Noise, Visual Resources** and **Biological Resources** portions of this Decision ensure that construction and operation of GWF Tracy will not create any significant direct, indirect, or cumulative adverse impacts to biological resources, and that the project will conform with all applicable laws, ordinances, regulations, and standards relating to biological resources as identified in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

Designated Biologist Selection

BIO-1 The project owner shall assign a Designated Biologist to the project. The project owner shall submit the resume of the proposed Designated Biologist, with at least three references and contact information, to the Energy Commission Compliance Project Manager (CPM) for approval. The Designated Biologist must have the following minimum qualifications:

1. A bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field;
2. Three years of experience in field biology or current certification of a nationally recognized biological society, such as the Ecological Society of America or the Wildlife Society; and
3. At least one year of field experience with biological resources found in or near the project area.

In lieu of the above requirements, the resume shall demonstrate to the satisfaction of the CPM that the proposed Designated Biologist or alternate has the appropriate training and background to effectively implement the conditions of certification.

Verification: The project owner shall submit the specified information at least 90 days prior to the start of any site mobilization. No site or site-related activities shall commence until an approved Designated Biologist is available to be on site. If a Designated Biologist needs to be replaced, the specified information of the proposed replacement must be submitted to the CPM at least 10 working days prior to the termination or release of the preceding Designated Biologist. In an emergency, the project owner shall immediately notify the CPM to discuss the qualifications and approval of a short-term replacement while a permanent Designated Biologist is proposed to the CPM for consideration.

Designated Biologist Duties

BIO-2 The project owner shall ensure that the Designated Biologist performs the following during any site mobilization, ground disturbance, grading, construction, operation, and closure activities. The Designated Biologist may be assisted by approved biological monitors, but remains the contact for the project owner and CPM. The Designated Biologist shall:

1. Advise the project owner's construction/operation managers on the implementation of biological resource conditions of certification;
2. Consult on the preparation of the biological resource mitigation implementation and monitoring plan (BRMIMP), to be submitted by the project owner;
3. Be available to supervise, conduct, and coordinate mitigation, monitoring, and other biological resource compliance efforts, particularly in areas requiring avoidance or containing sensitive biological resources such as special-status species or their habitats;
4. Clearly mark sensitive biological resource areas and inspect these areas at appropriate intervals for compliance with regulatory terms and conditions;
5. Inspect active construction areas where animals may have become trapped prior to commencement of construction each day;
6. Inspect for installation of structures that prevent entrapment or allow escape during periods of construction inactivity at the end of each day;
7. Periodically inspect areas with high vehicle activity (i.e., parking lots) for animals in harm's way;
8. Notify the project owner and CPM of any noncompliance with any biological resource condition of certification;
9. Respond directly to inquiries of the CPM regarding biological resource issues;
10. Maintain written records of the tasks specified above and those included in the biological resources mitigation implementation and monitoring plan (BRMIMP), with summaries of these records submitted in the monthly compliance report and the annual report; and

11. Train the biological monitors as appropriate, and ensure their familiarity with the BRMIMP, worker environmental awareness program (WEAP), and all permits.

Verification: The Designated Biologist shall submit in the monthly compliance report to the CPM copies of all written reports and summaries that document biological resource activities. If actions may affect biological resources during operation, a Designated Biologist shall be available for monitoring and reporting. During project operation, the Designated Biologist shall submit record summaries in the annual compliance report unless their duties are ceased as approved by the CPM.

Biological Monitor Selection

BIO-3 The project owner's CPM-approved Designated Biologist shall submit the resume, at least three references, and contact information for the proposed biological monitors to the CPM for approval. The resume shall demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the assigned duties. Biological monitor training by the Designated Biologist shall include familiarity with the conditions of certification and the BRMIMP, WEAP, and all permits.

Verification: The project owner shall submit the specified information to the CPM for approval at least 30 days prior to the start of any site mobilization. The Designated Biologist shall submit a written statement to the CPM confirming that individual biological monitors have been trained, including the date when training was completed. If additional biological monitors are needed during construction, the specified information shall be submitted to the CPM for approval 10 days prior to their first day of monitoring activities.

Designated Biologist and Biological Monitor Authority

BIO-4 The project owner's construction/operation managers shall act on the advice of the Designated Biologist and biological monitors to ensure conformance with the biological resources conditions of certification. If required by the Designated Biologist and biological monitors, the project owner's construction/operation managers shall halt site mobilization, ground disturbance, grading, construction, and operation activities in areas specified by the Designated Biologist. The Designated Biologist shall:

- Require a halt to all activities in any area when there would be an unauthorized adverse impact to biological resources if the activities continued;
- Inform the project owner and the construction/operation managers when to resume activities; and

- Notify the CPM if there is a halt of any activities, and advise the CPM of any corrective actions that have been taken, or shall be instituted, as a result of the work stoppage.

If the Designated Biologist is unavailable for direct consultation, the biological monitor shall act on behalf of the Designated Biologist.

Verification: The project owner shall ensure that the Designated Biologist or biological monitor notifies the CPM immediately (and no later than the following morning of the incident, or Monday morning in the case of a weekend) of any noncompliance or a halt of any site mobilization, ground disturbance, grading, construction, and operation activities. The project owner shall notify the CPM of the circumstances and actions being taken to resolve the problem. Whenever corrective action is taken by the project owner, a determination of success or failure shall be made by the CPM within five working days after receipt of notice that corrective action is completed, or the project owner shall be notified by the CPM that coordination with other agencies will require additional time before a determination can be made.

Worker Environmental Awareness Program

BIO-5 The project owner shall develop and implement a CPM-approved worker environmental awareness program (WEAP) in which each of its employees, as well as employees of contractors and subcontractors who work on the project site or any related facilities during site mobilization, ground disturbance, grading, construction, operation, and closure are informed about sensitive biological resources associated with the project. The WEAP must:

1. Be developed by or in consultation with the Designated Biologist and consist of an onsite or training center presentation in which supporting written material and electronic media are made available to all participants;
2. Discuss the locations and types of sensitive biological resources on the project site and adjacent areas;
3. Present the reasons for protecting these resources;
4. Present the meaning of various temporary and permanent habitat protection measures;
5. Identify whom to contact if there are further comments and questions about the material discussed in the program; and
6. Include a training acknowledgment form to be signed by each worker indicating that they received training and shall abide by the guidelines.

The specific program can be administered by a competent individual acceptable to the Designated Biologist.

Verification: At least 60 days prior to the start of any site mobilization, the project owner shall provide to the CPM two copies of the proposed WEAP and all supporting written materials and electronic media prepared or reviewed by the Designated Biologist and a resume of the persons administering the program. The project owner shall provide in the monthly compliance report the number of persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. At least 10 days prior to site mobilization, the project owner shall submit two copies of the CPM-approved materials. The signed training acknowledgement forms from construction shall be kept on file by the project owner for a period of at least six months after the start of commercial operation. During project operation, signed statements for active project operational personnel shall be kept on file for six months following the termination of an individual's employment.

Biological Resources Mitigation Implementation and Monitoring plan

BIO-6 The project owner shall submit two copies of the proposed biological resources mitigation implementation and monitoring plan (BRMIMP) to the CPM for review and approval, and to the San Joaquin Council of Governments (SJCOG), the US Fish and Wildlife Service (USFWS), and the California Department of Fish and Game (CDFG) for review and comment, and shall implement the measures identified in the approved BRMIMP. The BRMIMP shall be prepared in consultation with the Designated Biologist, shall include all measures contained in the BRMIMP for the TPP project, and shall identify:

1. All applicant-proposed mitigation, monitoring, and compliance measures included as part of the project description in the AFC, which include all measures required for TPP construction and operation;
2. How noise will be monitored, including specific mitigation for noise levels that exceed 60 dBA;
3. All biological resource conditions of certification, including any measures provided in consultation with SJCOG;
4. All biological resource mitigation, monitoring, and compliance measures required by the *San Joaquin County Multi-species Habitat Conservation and Open Space Plan* (SJMSCP) for each species listed in **Biological Resource Table 2** above for which measures are described, including exclusion zones around nests or colonies for special-status species – each species shall be named specifically with its SJMSCP-required incidental take minimization measures provided (see SJCOG 2002);

5. All biological resource mitigation, monitoring, and compliance measures required in terms and conditions of other state agencies commenting or permitting the project;
6. All biological resource mitigation, monitoring, and compliance measures required in local agency permits, such as site grading and landscaping requirements;
7. All mitigation, monitoring, and compliance measures required for protection of San Joaquin kit foxes and burrowing owls as discussed in conditions of certification **BIO-8**, **BIO-9**, and **BIO-10** below;
8. Required habitat-compensation strategy, including provisions for acquisition, enhancement, and management for any temporary and permanent loss of sensitive biological resources;
9. A detailed description of measures that shall be taken to avoid or mitigate temporary disturbances from construction activities;
10. All locations on a map, at an approved scale, of sensitive biological resource areas subject to disturbance and areas requiring temporary protection and avoidance during construction;
11. Duration for each type of monitoring and a description of monitoring methodologies and frequency;
12. Performance standards to be used to help decide if and when proposed mitigation is or is not successful;
13. All performance standards and remedial measures to be implemented if performance standards are not met;
14. A preliminary discussion of biological resource-related facility closure measures;
15. A landscaping plan that follows the TPP USFWS recommendations for maintenance of appropriate habitat character for the San Joaquin kit fox (see CEC 2002b);
16. A process for proposing plan modifications to the CPM and appropriate agencies for review and approval;
17. A copy of all biological resource-related permits obtained; and
18. A description of impact avoidance, minimization, and mitigation measures for noise and lighting impacts.

Verification: The project owner shall provide the specified document at least 60 days prior to start of any site mobilization. The CPM, in consultation with the SJCOG (and USFWS, and CDFG if they choose to comment), shall determine the BRMIMP acceptability within 45 days of receipt. If there are any permits that have not yet been received when the BRMIMP is first submitted, these permits shall be submitted to the CPM and the SJCOG within five days of their receipt and the BRMIMP shall be revised or supplemented to reflect the permit condition within 10 days of their receipt by the project owner. Ten days prior to mobilization of the site and related facilities, the revised BRMIMP shall be resubmitted to the CPM.

The project owner shall notify the CPM no less than five working days before implementing any modifications to the approved BRMIMP to obtain CPM approval. Any changes to the approved BRMIMP must also be approved by the CPM and submitted to the SJCOG, USFWS, and CDFG to ensure that no conflicts exist.

Implementation of BRMIMP measures shall be reported in the monthly compliance reports by the Designated Biologist (i.e., survey results, construction activities that were monitored, species observed). Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction closure report identifying which items of the BRMIMP have been completed, a summary of all modifications to mitigation measures made during the project's site mobilization, ground disturbance, grading, and construction phases, and which mitigation and monitoring items are still outstanding.

Impact Avoidance Mitigation measures

BIO-7 When a project is modified or a project design is finalized, it shall incorporate all feasible measures that avoid or minimize impacts to the local biological resources, including the following:

1. Design, install, and maintain transmission line poles, access roads, pulling sites, and storage and parking areas to avoid identified sensitive resources;
2. Design, install, and maintain transmission lines and all electrical components in accordance with the *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006* (APLIC 2006) to reduce the likelihood of electrocutions of large birds;
3. Grade and clear construction areas between September 1 and January 31, if possible, to minimize impacts to nesting birds;
4. Eliminate from landscaping plans any List A California exotic pest plants of concern as defined by the California Exotic Pest Plant Council;

5. prescribe a road sealant that is nontoxic to wildlife and plants that will limit dust on dirt roads;
6. Implement all incidental take minimization measures developed by SJCOG for the TPP project in 2002 (SJCOG 2002) prior to any ground disturbance;
7. Implement the applicant-proposed measures discussed in GWF 2008a, the application for certification, which are summarized above under Construction Impacts to General Wildlife; and
8. Submit any plans for landscaping anywhere in the kit fox corridor between the plant itself and the Delta-Mendota Canal to the US Fish and Wildlife Service and California Department of Fish and Game for specific approval prior to implementation.

Verification: All mitigation measures and their implementation methods shall be included in the BRMIMP. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM, for review and approval, a written construction termination report identifying how impact avoidance measures were completed.

Pre-construction Surveys

BIO-8 Pursuant to the *San Joaquin County Multi-species Habitat Conservation and Open Space Plan* (SJMSCP) and the requirements of the San Joaquin Council of Governments (SJCOG), all incidental take minimization measures for pre-construction surveys provided by SJCOG for TPP shall be implemented for the GWF Tracy project. These include but are not limited to the following (SJCOG 2002). .

1. Notify SJCOG of plans to commence ground disturbance to allow for preconstruction surveys for the San Joaquin kit fox (kit fox). If surveys identify potential dens, den entrances shall be dusted for three calendar days to register tracks of any kit fox present. If no kit fox activity is identified, potential dens may be destroyed. If kit fox activity is identified, dens shall be monitored to determine if occupation is by an adult fox only or is a natal den. If the den is occupied by an adult only, the den may be destroyed when the adult fox has moved or is temporarily absent. If the den is a natal den, a buffer zone of 250 feet shall be maintained around the den(s) until the biologist determines that the den has been vacated. Where kit foxes are identified, the provision of the US Fish and Wildlife Service's published *Standardized Recommendation for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 1999) shall apply.

2. Notify SJCOG of plans to commence ground disturbance to allow for preconstruction surveys for the burrowing owl. If burrowing owls are found, follow condition 3 in SJCOG 2002.
3. Prior to commencing ground disturbance, the construction team shall meet with SJCOG to discuss minimization measures designed to avoid impacts to the kit fox. The SJCOG biologist shall be present at the meeting to conduct kit fox education.

Verification: At least 14 days prior to the expected start of any project-related site mobilization, the project owner shall provide the CPM, USFWS, and CDFG with the results of preconstruction surveys and identify any mitigation measures to be employed as provided in these conditions of certification.

Avoid Harassment or Harm to SAN JOAQUIN Kit foxes

BIO-9 The project owner shall manage the construction site and related facilities in a manner to avoid or minimize impacts to the San Joaquin kit fox by following the incidental take minimization measures developed by SJCOG for TPP (SJCOG 2002), which requires implementing the USFWS 1999 guidelines entitled *Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance* (USFWS 1999). Measures provided by SJCOG include but are not limited to the following.

1. During construction, all pipes, culverts, or similar structures with a diameter of four inches or greater that are stored at the construction site for one or more overnight periods shall be thoroughly inspected for kit foxes before using or moving the equipment or materials. If a kit fox is discovered, then the materials or equipment shall not be moved until consultation with the US Fish and Wildlife Service. If necessary, under the direct supervision of the SJCOG biologist, the equipment may be moved once to remove it from the path of construction activity until the fox escapes.
2. During construction, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from the construction site.
3. After construction, SJCOG shall notify the USFWS and CDFG within 24 hours of receiving a report of incidental take occurring at the project site after project construction. SJCOG, the project proponent, and the permitting agencies shall meet within two weeks to discuss adaptive management measures that may be undertaken to reduce or eliminate future incidents of incidental take.

Verification: All incidental take minimization measures provided by the SJCOG consultant shall be included in the BRMIMP. Implementation of the measures shall be reported in the monthly compliance reports by the Designated Biologist. Within 30 days after completion of project construction, the project owner shall provide to the CPM and SJCOG, for review and approval, a written construction termination report identifying how all biological resource-related conservation measures were completed.

Burrowing Owl Impact Avoidance and Minimization Measures

BIO-10 The project owner shall manage the construction site and related facilities in a manner to avoid or minimize impacts to the burrowing owl by following the SJCOG incidental take minimization measures developed for the TPP project in 2002 (SJCOG 2002), specifically conditions 3 and 6, which are provided below.

1. During the nonbreeding season (September 1 through January 31), burrowing owls found during preconstruction surveys to be occupying the project site shall be evicted by passive relocation as described in the California Department of Fish and Game *Staff Report on Burrowing Owls* (CDFG 1995).
2. During the breeding season (February 1 through August 31), occupied burrows shall not be disturbed and shall be provided with a 75-meter protective buffer until and unless the TAC, with the concurrence of the permitting agencies' representatives on the TAC, or unless a qualified biologist approved by the permitting agencies, verifies through noninvasive means that either the birds have not begun egg laying or that juveniles from the occupied burrows are foraging independently and are capable of independent survival. Once fledglings are capable of independent survival, the burrow can be destroyed.
3. During construction, all food-related trash items such as wrappers, cans, bottles, and food scraps shall be disposed of in closed containers and removed at least once a week from the construction site.

Verification: The project owner shall submit a report to SJCOG and the CPM at least 30 days prior to the start of site mobilization that describes survey methods, results, and conservation or mitigation measures. If owl relocation is necessary, the project owner shall coordinate with SJCOG on the number of new burrows, their locations, and how any created burrows and compensation land shall be protected for the life of the project in a burrowing owl mitigation and monitoring plan. Within 30 days after completion of owl relocation and monitoring and the start of ground disturbance, the project owner shall provide written verification to the SJCOG and CPM that burrowing owl mitigation measures have been completed.

B. SOIL AND WATER RESOURCES

This section focuses on the soil and water resources associated with the project, including the project's potential to induce erosion and sedimentation, adversely affect water supplies, and degrade water quality. The analysis also considers site contamination and any potential cumulative impacts to water quality in the vicinity of the project. Mitigation measures are included in the Conditions of Certification to ensure that the project will have no adverse impacts on the environment and that it will comply with all applicable laws, ordinances, regulations, and standards. (Exs. 16; 20; 51; 61; 79; 8; 200.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The 16.38-acre GWF Tracy site (including construction lay down) is situated in an unincorporated area of San Joaquin County on a single 40-acre parcel owned by GWF Energy, LLC. The property is bounded by the Delta-Mendota Canal to the southwest, agricultural properties to the south and east, and the Union Pacific Railroad to the north.

San Joaquin County's General Plan designates the site and surrounding area as General Agriculture (A/G), which applies to land suitable for agriculture and not planned for urban development. The site is zoned Agriculture (AG-40) under the County Development Title to preserve agricultural land for agricultural purposes. Power plants are a conditionally permitted use in the AG-40 zone. (Exs. 11, § 5.6.3.3.2; 200, p. 4.5-5.)

1. Soil Resources

Site soils were mapped and analyzed with respect to their characteristics and potential impacts from project construction and operations. (Ex. 16, pp. 5.11-4 to 5.11-11.) The site soils, which contain Capay clay and Stomar clay loam, are very fine in texture and have high shrink-swell capacities, making them susceptible to heaving or collapsing with changing moisture content. (Exs. 16, p. 5.11-6; 200, p. 4.9-11.)

Generally, the erosion potential of soils varies depending on the wetness of the soil, soil compaction, sizes of soil particles, and other site-specific properties. Possible consequences of soil erosion are the loss of topsoil and increases to the sediment load in surface receiving waters in downstream areas. (Ex. 200, p. 4.9-13.)

GWF Tracy soils have potential for relatively high water erosion and moderate wind erosion during construction and operation. More particularly, they are expected to have slow to very slow permeability and consequently, high runoff. (Exs. 16, p. 5.11-6; 200, p. 4.9-11.) Accelerated wind and water-induced short-term erosion may result from earth-moving activities associated with project construction such as soil excavation, grading, installation of utility connections and water use. (Ex. 200, p. 4.9-13.) The site soils may also be potentially impacted by erosion during plant operation.

The evidence of record shows that the potential erosion impacts could be mitigated to less-than-significant levels through the use of Best Management Practices (BMPs) during and after construction, including: stabilizing construction entrances; applying water for dust suppression; placement of silt fencing, berms and hay bales as needed; conveying stormwater to a retention basin or sedimentation basin; preparing and implementing a Drainage, Erosion, and Sedimentation Control Plan; complying with the requirements of the General National Pollutant Discharge Elimination System (NPDES) permit for discharges of stormwater associated with construction activities; and developing and implementing a Storm Water Pollution Prevention Plan (SWPPP) for construction of the plant. (Ex. 200, p. 4.9-15.) These requirements are included in Conditions of Certification **SOIL&WATER -1, -2, and -3**.

To address the high shrink-swell capacities of the Capay clay and Stomar clay loam and their possible effect on project foundations and roadways, Staff proposed, and we have adopted, additional Conditions of Certification to mitigate the potential impacts of these expansive clay soils on foundations and roadways. These mitigation measures are provided in **Facility Design** Conditions of Certification **GEN-1, GEN-5, and CIVIL-1**. (Ex. 200, p. 4.9-22.) Condition of Certification **GEN-1** incorporates the requirement that GWF Tracy be designed and constructed in conformance with the latest edition of the California Building Standards Code (currently, the 2007 CBSC) and other applicable codes and standards in effect at the time design approval and construction actually begin. (Ex. 200, p. 5.1-3.) Condition of Certification **GEN-5** requires the project owner, prior to the start of rough grading, to assign to the project registered engineers from specified disciplines to fulfill specified obligations related to design, investigation, and report preparation. And, under Condition of Certification **CIVIL-1**, the project owner must submit for the Chief Building Official's review and approval various reports, plans, and related calculations and specifications to address drainage and erosion and sedimentation control, including reports required by the 2007 California Building Code.

Staff also identified the possible release of hazardous materials during construction and operations as having a potential impact on site and nearby soils. (Ex. 200, pp. 4.9-13, 4.9-18.) The Applicant has included design features to isolate stormwater (non-contact) from hazardous materials and equipment and proposes implementation of BMPs (to be included in the GWF Tracy SWPPP prior to construction) to minimize contact of construction materials with storm water. (Exs. 61, p. 3-3; 200, p. 4.9-21.) In addition, general plant drains would collect containment area washdown and discharge to sample and facility equipment drains. (Ex. 200, p. 4.9-10.) Drains that could contain oil or grease would first be routed through an oil/water separator and then discharged to the existing 10,000 gallon holding tank. And, industrial wastewater from combustion turbine engines would be collected in holding tanks or sumps and then trucked offsite for disposal. (Ex. 200, p. 4.9-10.)

2. Water Resources

a. Groundwater

GWF Tracy is located within the southern two-thirds of the Central Valley aquifer system, which is made up of post-Eocene continental rocks and deposits and contains most of the fresh water in the valley. (Exs. 20, 5.15-4; 200, p. 4.9-6.) The depth to shallow groundwater at the site is 10 to 25 feet below the ground surface. (Ex. 200, p. 4.9-10.) However, the groundwater near Tracy can vary from 30 to 200 feet below ground surface. (*Id.*)

The evidence of record shows that GWF Tracy is not expected to have an impact on local and regional groundwater. The project will not directly withdraw groundwater from the area. (Exs. 20, p. 5.5-7; 200, p. 4.9-11.) GWF Tracy will not utilize groundwater during construction or operation. (Ex. 200, p. 4.9-11.) The plant buildings and associated paved areas would be impervious to infiltration, locally reducing infiltration under these areas and facilities. (Ex. 200, p. 4.9-11.)

All plant stormwater runoff will be collected and conveyed to a retention basin, where the infiltration will occur. (Ex. 200, p. 4.9-11.) The on-site evaporation-percolation (retention) basin will contain noncontact stormwater and therefore, not cause an impact on local and regional groundwater. (Exs. 20, p. 5.15-7; 200, p. 4.9-11.) Contact stormwater will be directed to the holding tanks and trucked off-site. (Ex. 200, p. 4.9-11.)

b. Surface Hydrology

GWF Tracy is located within the San Joaquin Basin. The principal rivers in the basin are the San Joaquin River and its larger tributaries. (Ex. 20, p. 5.15-3.) Runoff from the Sierra Nevada and Coast Ranges supplies the San Joaquin River with fresh surface water before flowing to the Sacramento-San Joaquin Delta. (*Id.*) GWF Tracy is not located near any of these surface water features. (Ex. 200, p. 4.9-5.) Nor are there any surface waters located within the GWF Tracy site. (Ex. 20, p. 5.15.-3.)

The Delta-Mendota Canal, which is adjacent to the project site, is the closest surface water body. (Ex. 200, p. 4.9-5.) The California Aqueduct is approximately one-half mile southwest of the site. (Exs. 20, p. 5.15.-3; 200, p. 4.9-5.) These canals import surface water via the State Water Project and the CVP. (Exs. 20, p. 5.15-3; 200, p. 4.9-5.)

The project site is currently developed, including drainage improvements currently used for the TPP. (Exs. 20, p. 5.15-5; 200, p. 4.9-6.) During construction, approximately 12.3 acres will be temporarily disturbed at the GWF Tracy site for construction laydown and staging. (Exs. 20, p. 5.15-7; 200, p. 4.9-6.) An additional 3.28 acres will be permanently disturbed for the relocation of the stormwater evaporation-percolation (retention) basin. (Ex. 20, p. 5.15-7.)

Grading during construction will alter existing drainage patterns on the site. However, as required by Condition of Certification **SOIL&WATER-1**, a SWPPP will be developed and implemented in accordance with the NPDES General Permit for Stormwater Discharges Associated with Construction Activity. The SWPPP will establish best engineering management practices and drainage controls intended to prohibit the entry of pollutants from the construction site into stormwater during construction. (Ex. 20, p. 5.15-7.) A stormwater monitoring program would also be implemented for construction activities. With implementation of the SWPPP in accordance with the NPDES General Permit, impacts to surface water hydrology and drainage during construction will be less than significant. (Exs. 20, p. 5.15-7; 200, pp. 4.9-13 to 4.9-15.)

When completed, the project site will be partially covered with impervious surfaces, which would increase runoff during moderate and large storm events. (Ex. 200, p. 4.9-18.) Contact stormwater (runoff from the equipment areas on the site) would be controlled and contained within in the plant area by an industrial wastewater collection system, which will be stored in an on-site holding tank until

it is transported off-site by a licensed hauler. (Ex. 20, p. 5.15-7.) Noncontact runoff from the project would be managed through the existing drainage system with the use of trench drains, shallow ditches, culverts, and storm piping systems. (Ex. 20, p. 5.15-5.) This runoff would then be collected into a new, larger retention basin that would rely on percolation and evaporation for drainage. (Ex. 20, p. 5.15-5; 200, p. 4.9-11, 4.9-18, 4.9-22.)

c. Project Water Supply

GWF Tracy will use water during construction and operation. The primary use of water during construction is dust control and pipeline/hydrostatic testing. (Ex. 200, pp. 4.9-7, 4.9-16.) GWF Tracy estimates average and maximum construction water use to be 416,000 and 2.5 million gallons, respectively. (Ex. 200, p. 4.9-17.) During operations, GWF Tracy proposes to use approximately 87 gallons of water per minute (gpm): 37 gpm of raw water from BBID and 50 gpm of plant process recycled water as shown in **Table 1** below. (Ex. 200, p. 4.9-7.) This average daily use would support fire protection, evaporative cooling of air intake, heat recovery steam generator makeup, auxiliary boiler makeup, steam turbine lubricating oil wet surface cooler, and other miscellaneous plant uses. (Exs. 20, p. 5.15-5; 200, pp. 4.9-7 to 4.9-8.)

**Soil and Water Resources Table 1
Estimated Daily and Annual Water Use for GWF Tracy Operations**

<i>Water Use</i>	<i>Water Source</i>	<i>Average Daily Use (gpm)</i>	<i>Maximum^a Daily Use (gpm)</i>
Power Plant Water Demand			
Raw Water	Delta-Mendota Canal Plant Process Return Flow	37 ^c	156
Plant Process (Recycle) Water		50	93
Approximate Operational Use			
Demineralized Water	Delta-Mendota Canal Plant Process Return Flow	46 ^b	70 ^b
Evaporative Cooler		21 ^d	49 ^d
Steam Turbine Lubricating Oil Cooling		7 ^d	95 ^d
Plant Service Water (Intermittent Use)		<1	<1

^a Maximum water requirements are based on 98° F ambient temperature.

^b Demineralized water used for HRSG makeup, intermittent auxiliary boiler makeup, and turbine wash water.

^c Average Annual Use at 37 gpm for 8,000 hours per year equal to 54.4 acre-feet per year

^d Daily use lost to evaporation

Source: Ex. 200, p. 4.9-7.

Byron-Bethany Irrigation District (BBID) will supply high quality, raw surface water to the project. (Exs. 20, p. 5.15-8; 200, pp. 4.9-6, 4.9-7, 4.9-17, 4.9-23.) This water would be provided under an existing long-term water service agreement between BBID and the Bureau of Reclamation (Reclamation) for approximately 20,600 acre-feet of Central Valley Project (CVP) water. (Ex. 200, p. 4.9-23.) The water would be delivered via the Delta-Mendota Canal using an existing pipeline developed for the TPP. (Ex. 200, p. 4.9-6.)

Under an agreement with BBID, GWF Energy, LLC, has a present, potential right to 136 acre feet of water for the entire 40-acre TPP/GWF Tracy site during years when Reclamation allows full allocations. (Ex. 200, p. 4.9-23.) Staff expressed concern that the supply from BBID is speculative given that Reclamation can, and in recent years has, limited allocations. (Ex. 200, p. 4.9-24.) Staff nonetheless concluded, after analysis of Reclamation's water allocations over that past 11 years and information provided directly by BBID, that BBID is a reliable water source that can meet GWF Tracy's and the TPP's demands through the current water service contract with Reclamation. (Exs. 61, pp. 50 to 51 [Response to CEC Data Request 36]; 200, pp. 4.9-23, 4.9-26.) Staff further determined that the use of BBID raw water would not cause a significant impact on other water users or on the quality of other waters. (Ex. 200, p. 4.9-25.)

Although classified as air-cooled due to its use of an air-cooled condenser system--an alternative cooling technology that provides environmental benefits from significantly reduced water use--GWF Tracy will use BBID water for evaporative cooling of intake air and a wet surface air cooler (WSAC) for lubricant oil cooling. Under the State Water Resources Control Board (SWRCB) *Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling* (Resolution 75-58), fresh inland surface waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. (Exs. 20, p. 5.15-8; 200, pp. 4.9-27 to 4.9-29.) In addition, the Commission's *2003 Integrated Energy Policy Report* (2003 IEPR) includes the stated policy that the Commission will approve the use of fresh water (surface or groundwater) for cooling purposes by power plants only where alternative water supply sources and alternative cooling technologies are shown to be "environmentally undesirable" or "economically unsound." (Exs. 20, p. 5.15-8; 200, pp. 4.9-27 to 4.9-29.) Both Staff and the Applicant provided data and analyses establishing that GWF Tracy's use of fresh inland water substantially complies with SWRCB Resolution 75-58 and the 2003 IEPR.

Staff's analysis included an evaluation of the availability of recycled water supplies for GWF Tracy. (Ex. 200, pp. 4.9-28 to 4.9-29.) The Tracy Wastewater Treatment Plant was identified as a possible supplier of recycled water given its close proximity to the project site. Staff's evaluation showed, however, that the various possible alignments evaluated for the pipeline from the treatment plant to GWF Tracy would require ownership agreements with the City of Tracy and a significant assessment of the easements and right of way needed for construction. (Ex. 200, pp. 4.9-28 to 4.9-29.) Moreover, the estimated costs to trench the streets, install pipe, and repave city streets show that such activities would be economically unsound and environmentally undesirable. (Exs. 20, p. 5.15-8, 61, p. 49 [Response to CEC Data Request 34]; 20, p. 200, p. 4.9-29.)

To ensure that the project's water use conforms to the established policies, the project owner must comply with Conditions of Certification **SOIL&WATER-4** and **-5**. These Conditions include requirements that: water used for project operation for process, sanitary, and landscape irrigation purposes shall exclusively be raw surface water from BBID; pumping or purchasing groundwater is prohibited; water use shall not exceed the annual limit of 54.4 acre-feet per year; and, that total water used on a monthly basis must be monitored and reported based on newly installed metering devices.

d. Wastewater

The Commission's water policy seeks to protect water resources from power plant wastewater discharges. To that end, the Commission requires zero liquid discharge technologies (for management of power plant wastewaters) unless such technologies are shown to be "environmentally undesirable" or "economically unsound."

The evidence of record shows that GWF Tracy will be a near-zero liquid discharge facility. (Exs. 20, p. 5.15-6; 200, p. 4.9-10.) This will be accomplished by handling sanitary waste on-site through an existing 1,500 gallon septic tank and 1,000 square foot leach field. (Ex. 200, p. 4.9-29.) The Applicant's draft SWPPP shows that during construction, all of GWF Tracy's domestic sanitary wastewater will be collected in portable self-contained chemical toilets and disposed of by a licensed contractor. (Exs. 51, p. 3-3; 200, p. 4.9-10.)

A wastewater recovery system would be used to reduce the volume of wastewater produced by the plant. (Exs. 20, p. 5.15-6; 200, p. 4.9-10.) Minimal quantities of industrial wastewater will be stored on-site and transported by

licensed haulers for off-site recycling or disposal. (Exs. 20, p. 5.15-6; 200 pp. 4.9-10, 4.9-22.) Noncontact stormwater from the plant will be channeled and directed to an on-site evaporation/percolation basin. (Ex. 20, p. 5.15-6.). All other wastewater generated would be handled and disposed of according to standard procedures and all applicable LORS. (Ex. 20, p. 5.15-6.)

Compliance with Conditions of Certification **SOIL&WATER -5** and **-6** will reduce potential impacts from construction and operational impacts to less than significant. **SOIL&WATER -5** requires the project owner to comply with the applicable requirements of the San Joaquin County Code regarding a sanitation permit for sanitary waste disposal facilities including GWF Tracy's septic system and leach field. **SOIL&WATER -6** prohibits the project owner from discharging wastewater, other than non-contact stormwater and requires provision of evidence that the industrial wastewater and contact stormwater are being disposed of at an appropriately licensed facility.

3. Cumulative Impacts

The evidence of record shows that with the implementation of the Conditions of Certification, including the requirements for compliance with the SWPPP and DESCP, the above-discussed soil impacts caused by accelerated wind- and water-induced erosion will not contribute significantly to cumulative erosion and sedimentation impacts. (Ex. 200, p. 4.9-26.) Because, stormwater would be retained on site and it would not exacerbate flooding conditions in the area. (Ex. 200, p. 4.9-26.) Similarly, wastewater-related cumulative impacts are not expected if there is compliance with the Conditions of Certification regarding wastewater management.

With respect to GWF Tracy's raw water use, BBID contractors and all other CVP contractors have been granted entitlement by Reclamation under a complex system of water rights and agreements that ensure there are not cumulatively significant impacts to other upstream and downstream users or environmental resources. (Ex. 200, p. 4.9-26.) All CVP water users received supplied based on contract allotment and the need to meet requirements for the protection of these resources. Therefore, no adverse effects on downstream water rights are expected as a result of GWF's additional water demand. (Ex. 200, p. 4.9-26.)

FINDINGS OF FACT

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

1. With the implementation of the proposed mitigation measures contained in the Conditions of Certification and compliance with the SWPPP and DESC, the accelerated wind-and water-induced erosion resulting from the temporary and permanent disturbances associated with construction and operation of GWF Tracy, will be less than significant.
2. Applicant has submitted a draft erosion control plan for the construction phase of the project which identifies Best Management Practices to be used to control erosion and the discharge of storm water off-site. If implemented these measures will ensure no significant adverse impacts occur to area soils.
3. GWF Tracy will be constructed to comply with 100-year flood requirements and would not exacerbate flood conditions in the vicinity of the project.
4. The fresh water supply for the project will not cause significant adverse environmental impacts on current or future users of the water supply. Moreover, the project's use of a fresh water supply substantially complies with state water policy and Energy Commission policy because there is no economically feasible or environmentally desirable alternative.
5. With the implementation of the proposed mitigation measures contained in the Conditions of Certification, GWF Tracy's construction and operation activities will not cause a substantial or potentially substantial adverse change in the quantity or groundwater or surface water.
6. Conditions of Certification contained in this Decision establish appropriate, predetermined performance standards for mitigation measures in accord with California environmental statutes and CEQA case law.
7. The Conditions of Certification, below, are adequate to ensure that construction and operation of GWF Tracy will not create unmitigated project-specific or cumulative significant impacts to the matters addressed in the technical discipline of **SOILS AND WATER RESOURCES**.

CONCLUSION OF LAW

1. We therefore conclude that the project will conform to all applicable laws, ordinances, regulations, and standards identified in the pertinent portion of **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

SOIL & WATER-1: The project owner shall comply with the requirements of the General National Pollutant Discharge Elimination System (NPDES) permit for discharges of storm water associated with construction activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for the construction of the entire GWF Tracy Combined Cycle Power Plant Project (GWF Tracy). The construction SWPPP shall include a requirement which excludes the removal of the sedimentation basin, north of the construction laydown area, prior to the return of sufficient vegetated cover (to pre-existing conditions) to the land area which drains to it.

Verification: The project owner shall submit a copy of the construction SWPPP to the San Joaquin County Stormwater Management Engineer for review. The project owner shall submit copies to the compliance project manager (CPM) of all correspondence between the project owner and the Central Valley Regional Water Quality Control Board (RWQCB) regarding the General NPDES permit for the discharge of storm water associated with construction activities within 10 days of its receipt (when the project owner receives correspondence from the RWQCB) or within 10 days of its mailing (when the project owner sends correspondence to the RWQCB). This information shall include copies of the Notice of Intent and the Notice of Termination sent to the State Water Resources Control Board for the project construction.

SOIL & WATER-2: Prior to site mobilization, the project owner shall obtain CPM approval for a site-specific Drainage, Erosion, and Sedimentation Control Plan (DESCP) that ensures protection of water quality and soil resources of the project site and all linear facilities for both the construction and operation phases of the project. This plan shall address appropriate methods and actions, both temporary and permanent, for the protection of water quality and soil resources, demonstrate no increase in offsite flooding potential, meet local requirements, and identify all monitoring and maintenance activities. Additionally, the plan shall incorporate the construction sequence of taking the existing retention basin offline, installing a modified drainage network, and constructing the new retention basin. Monitoring activities shall include routine measurement of the volume of accumulated sediment in the stormwater retention basin. Maintenance activities must include removal of accumulated sediment from the retention basin when an average depth of 0.5 feet of sediment has accumulated in the retention basin. The plan shall be consistent with the grading and drainage plan as required by Condition of Certification **CIVIL-1**. The DESCPC shall contain the following elements. All maps shall be presented at a legible scale.

Vicinity Map – A map shall be provided indicating the location of all project elements with depictions of all significant geographic features to include watercourses, washes, irrigation and drainage canals, and sensitive areas.

Site Delineation – The site and all project elements shall be delineated showing boundary lines of all construction areas and the location of all existing and proposed structures, pipelines, roads, and drainage facilities.

Watercourses and Critical Areas – The DESCP shall show the location of all nearby watercourses including washes, irrigation and drainage canals, and drainage ditches, and shall indicate the proximity of those features to the construction site.

Drainage – The DESCP shall include hydrologic calculations for onsite areas and offsite areas that drain to the site; include maps showing the drainage area boundaries and sizes in acres, topography and typical overland flow directions, and show all existing, interim, and proposed drainage infrastructure and their intended direction of flow. Provide hydraulic calculations to support the selection and sizing of the drainage network, retention facilities and best management practices (BMPs). Spot elevations shall be required where relatively flat conditions exist. The spot elevations and contours shall be extended off site for a minimum distance of 100 feet in flat terrain or to the limits of the offsite drainage basins.

Clearing and Grading – The plan shall provide a delineation of all areas to be cleared of vegetation and areas to be preserved. The plan shall provide elevations, slopes, locations, and extent of all proposed grading as shown by contours, cross sections, cut/fill depths or other means. The locations of any disposal areas, fills, or other special features shall also be shown. Existing and proposed topography tying in proposed contours with existing topography shall be illustrated. The DESCP shall include a statement of the quantities of material excavated at the site, whether such excavations or fill is temporary or permanent, and the amount of such material to be imported or exported or a statement explaining that there would be no clearing and/or grading conducted for each element of the project. Areas of no disturbance shall be properly identified and delineated on the plan maps.

Project Schedule – The DESCP shall identify on the topographic site map the location of the site-specific BMPs to be employed during each phase of construction (initial grading, project element excavation and construction, and final grading/stabilization). Separate BMP implementation schedules shall be provided for each project element for each phase of construction.

Best Management Practices – The DESCP shall show the location, timing, and maintenance schedule of all erosion- and sediment-control BMPs to be used prior to initial grading, during project element excavation and construction, during final grading/stabilization, and after construction. BMPs shall include measures designed to control dust and stabilize construction access roads and entrances. The maintenance schedule shall include post-construction maintenance of treatment-control BMPs applied to disturbed areas following construction.

Erosion Control Drawings – The erosion-control drawings and narrative shall be designed, stamped, and sealed by a professional engineer or erosion-control specialist.

Verification: No later than 90 days prior to start of site mobilization, the project owner shall submit a copy of the DESCP to San Joaquin County for review and comment. A copy shall be submitted to the CPM no later than 60 days prior to the start of site mobilization for review and approval. The CPM shall consider comments received from San Joaquin County. During construction, the project owner shall provide an analysis in the monthly compliance report on the effectiveness of the drainage-, erosion- and sediment-control measures and the results of monitoring and maintenance activities. Once operational, the project owner shall provide in the annual compliance report information on the results of stormwater BMP monitoring and maintenance activities.

SOIL & WATER-3: The project owner shall comply with the requirements of the general NPDES permit for discharges of storm water associated with industrial activity. The project owner shall develop and implement a Storm Water Pollution Prevention Plan (SWPPP) for the operation of the site. The project owner may also submit a Notice of Non-Applicability (NONA) to the RWQCB to apply for an exemption to the general NPDES permit.

Verification: At least 30 days prior to commercial operation, the project owner shall submit copies to the CPM of the operational SWPPP for the GWF Tracy site. Within 10 days of its mailing or receipt, the project owner shall submit to the CPM any correspondence between the project owner and the RWQCB about the general NPDES permit for discharge of storm water associated with industrial activity. This information shall include a copy of the notice of intent sent by the project owner to the State Water Resources Control Board and the notice of termination. A letter from the RWQCB indicating that there is no requirement for a general NPDES permit for discharges of storm water associated with industrial activity would satisfy this Condition.

SOIL & WATER-4: Water used for project operation for process, sanitary and landscape irrigation purposes shall exclusively be raw surface water from Byron-Bethany Irrigation District (BBID). Pumping or purchasing groundwater is prohibited. Water use shall not exceed the annual water-use limit of 54.4 acre-feet per year. The project owner shall

monitor and record the total water used on a monthly basis. For calculating the annual water use, the term “year” will correspond to the date established for the annual compliance report submittal.

Prior to using raw surface water for process needs, the project owner shall install and maintain metering devices as part of the water supply and distribution systems to monitor and record, in gallons per day, the total volume(s) of water supplied to GWF Tracy from BBID. Those metering devices shall be operational for the life of the project.

For the first year of operation, the project owner shall prepare an annual Water Use Summary, which will include the monthly range and monthly average of daily raw surface water usage in gallons per day, and total water used by the project on a monthly and annual basis in acre-feet. For subsequent years, the annual Water Use Summary shall also include the yearly range and yearly average water use by the project. The annual Water Use Summary shall be submitted to the CPM as part of the annual compliance report.

Verification: At least 60 days prior to commercial operation of GWF Tracy, the project owner shall submit to the CPM evidence that metering devices have been installed and are operational on the water supply and distribution systems. When the metering devices are serviced, tested and calibrated, the project owner shall provide a report summarizing these activities in the next annual compliance report. The project owner, in the annual compliance report, shall provide a Water Use Summary that states the source and quantity of raw surface water used on a monthly basis and on an annual basis in units of acre-feet. Prior annual water use including yearly range and yearly average shall be reported in subsequent annual compliance reports.

SOIL & WATER-5: The project owner shall provide Energy Commission staff with all permits related to the commercial septic system on the Tracy Peaker Plant site to verify compliance with the San Joaquin County Department of Environmental Health requirements..

Verification: The project owner shall provide the commercial septic system permit to the CPM for approval.

SOIL & WATER-6: The project owner shall not discharge wastewater, other than non-contact stormwater, and shall provide evidence that industrial wastewater and contact stormwater is being disposed of at an appropriately licensed facility.

Verification: The project owner shall provide evidence of industrial wastewater and contact stormwater disposal, via a licensed hauler, to an appropriately licensed facility in the annual compliance report.

C. CULTURAL RESOURCES

Cultural resources such as artifacts, structures, or land modifications reflect the history of human development. Places that are important to Native Americans or other ethnic groups are also considered valuable cultural resources. This topic reviews the structural and cultural evidence of human development in the project vicinity, where cultural resources could be disturbed by excavation and construction. Federal and state laws require a project developer such as the Applicant to implement mitigation measures to minimize potential adverse impacts to *significant* cultural resources.

SUMMARY AND DISCUSSION OF THE EVIDENCE

The term “cultural resource” is used broadly to include the following categories of resources: prehistoric and historic archaeological sites, buildings, structures, objects, and historic districts. When a cultural resource is determined to be significant, it is eligible for inclusion in the California Register of Historic Resources (CRHR). (Pub. Res. Code, § 5024.1; Cal. Code Regs., tit. 14, § 4850 et seq.) An archaeological resource that does not qualify as an historical resource may be considered a “unique” archaeological resource under CEQA. (See Pub. Res. Code, § 21083.2.) In addition, structures older than 50 years (or less if the resource is deemed exceptional) can be considered for listing as significant historic structures. (Cal. Code Regs., tit. 14, § 4852 (d)(2) [CRHR].)

1. Research and Survey Results

a. Archival Research

The investigation of cultural resources in the project vicinity involved both archival research and field surveys. Archival research included records searches at the Central California Information Center (CCIC, part of the California Historical Resources Information System, or CHRIS) at California State University, Stanislaus. The CHRIS records search provided information on previously recorded prehistoric and historic-period archaeological sites, previously recorded historic built-environment resources, resources listed on the California Register of Historical Resources (CRHR), resources listed on the National Register of Historic Places (NRHP), and previous cultural resources reports pertinent to the project vicinity. (Ex. 200, pp. 4.3-14 to 4.3-15.)

The CHRIS files indicated there had been 14 previous cultural resource surveys within the project vicinity, with ten recorded cultural resources, nine of which were in the vicinity of the TPP. (*Id.*) These include the Western Pacific/Union Pacific Railroad, dating from 1900, the Delta-Mendota Canal, built from 1947 to 1952, a telegraph line dating from 1870, an abandoned house at least 50 years old, and small artifacts possibly related to farming or construction.

b. Field Surveys

Because the proposed GWF Tracy Project would be constructed entirely within the TPP plant site, and because the surface soils of the TPP plant site were wholly disturbed by the TPP grading, excavation, and application of fill, no additional pedestrian archaeological survey was necessary for the main components of the GWF Tracy Project. (Ex. 8, p. 5.3-6.) The two transmission line segments (TL2 and TL3) that the GWF Tracy Project proposes to reconductor, however, had not been previously surveyed for cultural resources, so these locations were surveyed. (*Id.*)

2. Construction Impacts and Mitigation

a. Direct Impacts

Because no known CRHR-eligible cultural resources were identified in or near the GWF Tracy Project areas, the proposed project would have no construction-related or operation-related impacts on known CRHR-eligible cultural resources. (Ex. 200, p. 4.3-22.)

But ground disturbance for foundations and trenches in previously undisturbed native soils could potentially impact buried CRHR-eligible archaeological resources for which no surface evidence was observable. For the GWF Tracy Project, the potential presence of such resources would be of concern only where proposed project-related ground disturbance would affect undisturbed native soils more than three feet below the surface—the presumed maximum depth of disturbance associated with previous agricultural use. (*Id.*)

GWF has provided documentation that the soils in the developed part of the TPP site were disturbed to a depth of at least four feet (Ex. 8 p. 5.8-8) during the construction of the existing plant, and in some parts of the site to considerably greater depths: the duct bank depth reached 12 feet; and the power block and the stormwater retention pond depths both reached eight feet (Ex. 200, p. 4.3-23). No buried archaeological resources were discovered by the archaeological

monitor during the construction-related ground disturbance in the developed part of the TPP site. (*Id.*) Applicant stated that no buried archaeological deposits are likely to be found during the construction-related ground disturbance for the proposed GWF Tracy Project at the TPP site (Ex. 61, Data Response 25).

Staff, however, states that there are two TPP areas where GWF Tracy project-related ground disturbance would take place in soils previously undisturbed below three feet in depth and that therefore some buried archaeological resources could be unearthed during excavation for GWF Tracy. These two areas are the location of the new stormwater retention basin and the location of the six new, tubular steel poles proposed for the loop-through interconnection from the plant's switchyard to the Tesla-Manteca 115-kV transmission line. The new stormwater retention basin would be excavated to an estimated 10 feet below grade in a part of the TPP parcel that appears to be undisturbed except by the probable agricultural use that preceded the TPP (Ex 61, Data Response 22; Ex 8, fig. 1.1-4; Ex. 200, p. 4.3-23).

On the basis of these facts, GWF has proposed to retain a qualified Cultural Resources Specialist (CRS) to prepare a cultural resources monitoring and mitigation plan and to develop a program to train construction personnel to identify cultural resources and to halt work if cultural resources are encountered during construction. The CRS, or a qualified monitor, will be available to inspect and evaluate any finds of buried archaeological resources made during construction and, if archaeological remains are discovered, will evaluate them and make a recommendation on their CRHR-eligibility and the need for any mitigation to the Energy Commission's Compliance Project Manager.

To GWF's suggested contingency mitigation measures, Staff proposed adding measures to ensure that all significant impacts to CRHR-eligible cultural resources discovered during construction are mitigated to below the level of significance. GWF's suggested mitigation measures and Staff's additional recommendations are incorporated into Conditions of Certification **CUL-1** through **CUL-7**, below, which we adopt in this Decision. These Conditions would ensure that significant impacts to CRHR-eligible archaeological discoveries discovered during construction would be mitigated to a less-than-significant level.

b. Indirect Impacts

Neither GWF nor Staff identified any indirect impacts to any identified cultural resources in the project areas of the proposed GWF Tracy Project, and so no

mitigation measures for indirect impacts would be required for any class of cultural resources.

3. Operation Impacts and Mitigation

During operation of the proposed project, if a leak should develop in the gas or water pipelines supplying the plant, repair of the buried utility could require extensive excavation. Such repairs could impact previously unknown subsurface archaeological resources in areas unaffected by the original trench excavation. Conditions of Certification **CUL-1** through **CUL-7** would serve to mitigate impacts from repairs occurring during operation of the plant.

4. Cumulative Impacts and Mitigation

A cumulative impact is a proposed project's incremental effect considered over time together with those of other, nearby, past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project (Pub. Res. Code sec. 21083; Cal. Code Regs., tit. 14, §§ 15064(h), 15065(a)(3), 15130, and 15355). Cumulative impacts to cultural resources in the GWF Tracy Project vicinity could occur if any other existing or proposed projects, in conjunction with the proposed GWF Tracy, had or would have impacts on cultural resources that, considered together, would be significant. The previous ground disturbance from prior projects and the ground disturbance related to the future construction of the GWF Tracy and other proposed projects in the vicinity could have a cumulatively considerable effect on subsurface archaeological deposits, both prehistoric and historic. The alteration of the local setting which could be caused by the construction and operation of the proposed GWF Tracy and other proposed projects in the vicinity could be cumulatively considerable, but may or may not be a significant impact to cultural resources.

We have adopted Conditions of Certification for GWF Tracy that provide for the identification, evaluation, and avoidance or mitigation of impacts to previously unknown CRHR-eligible archaeological resources discovered during the construction of the project. Since any significant impacts from the proposed GWF Tracy Project to CRHR-eligible cultural resources would be mitigated to a less-than-significant level by the project's compliance with Conditions of Certification **CUL-1** through **CUL-7**, and since we anticipate that similar protocols will be applied to other projects in the area, we do not expect any incremental effects on cultural resources of the proposed GWF Tracy Project to be cumulatively considerable when viewed in conjunction with other projects.

FINDINGS OF FACT

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

1. As part of the construction of the TPP, a complete Cultural Resources survey was performed and appropriate mitigation for impacts to cultural resources was implemented.
2. GWF Tracy would occupy the current site, which has previously been disturbed to a depth greater than three feet, with two minor exceptions.
3. The potential for impacts to unknown cultural resources in previously-undisturbed areas may not be discovered until subsurface soils are exposed during excavation and construction.
4. The project owner will implement a Cultural Resources Monitoring and Mitigation Plan (CRMMP) to protect known and unknown resources, including avoidance, physical demarcation and protection, worker education, archeological monitoring, Native American monitoring, authority of monitor to halt construction, and the filing of a cultural resources report and significance review.
5. The potential for cumulative impacts to cultural resources is insignificant.
6. The mitigation measures contained in the Conditions of Certification below ensure that any direct, indirect, or cumulative adverse impacts to cultural resources resulting from project-related activities will be insignificant.

CONCLUSION OF LAW

1. The Commission therefore concludes that implementation of the Conditions of Certification, below, will ensure the project conforms 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 (includes “preconstruction site mobilization;” “construction ground disturbance;” and “construction grading, boring, and trenching,” as defined in the General Conditions for this project), the project owner shall obtain the services of a Cultural Resources Specialist (CRS), and one or more alternate CRSs, if alternates are needed. The CRS shall manage all consultation,

monitoring, mitigation, curation, and reporting activities required in accordance with the Conditions of Certification (Conditions). The CRS may elect to obtain the services of Cultural Resource Monitors (CRMs) and other technical specialists, if needed, to assist in monitoring, mitigation, and curation activities. The project owner shall ensure that the CRS makes recommendations regarding the eligibility to the California Register of Historical Resources (CRHR) of any cultural resources that are newly discovered or that may be affected in an unanticipated manner. No ground disturbance shall occur prior to CPM approval of the CRS, unless specifically approved by the CPM. Approval of a CRS may be denied or revoked for non-compliance on this or other projects.

CULTURAL RESOURCES SPECIALIST

The resumes for the CRS and alternate(s) shall include information demonstrating to the satisfaction of the CPM that their training and background conform to the U.S. Secretary of Interior Guidelines, as published in the Code of Federal Regulations, 36 CFR Part 61. In addition, the CRS shall have the following qualifications:

1. The CRS's qualifications shall be appropriate to the needs of the project and shall include a background in anthropology, archaeology, history, architectural history, or a related field; and
2. At least three years of archaeological or historical, as appropriate (per nature of predominant cultural resources on the project site), resources mitigation and field experience in California; and
3. At least one year of experience in a decision-making capacity on cultural resources projects in California and the appropriate training and experience to knowledgeably make recommendations regarding the significance of cultural resources.

The resume of the CRS shall include the names and telephone numbers of contacts familiar with the work of the CRS on referenced projects, and demonstrate that the CRS has the appropriate education and experience to accomplish the cultural resource tasks that must be addressed during ground disturbance, grading, construction, and operation.

CULTURAL RESOURCES MONITORS

CRMs shall have the following qualifications:

1. A BS or BA degree in anthropology, archaeology, historical archaeology or a related field and one year experience monitoring in California; or
2. An AS or AA degree in anthropology, archaeology, historical archaeology or a related field, and four years experience monitoring in California; or
3. Enrollment in upper division classes pursuing a degree in the fields of anthropology, archaeology, historical archaeology or a related field, and two years of monitoring experience in California.

CULTURAL RESOURCES TECHNICAL SPECIALISTS

The resume(s) of any additional technical specialists, e.g., historical archaeologist, historian, architectural historian, and/or physical anthropologist, shall be submitted to the CPM for approval.

Verification: At least 45 days prior to the start of ground disturbance, the project owner shall submit the resume for the CRS, and alternate(s), if desired, to the CPM for review and approval.

At least 10 days prior to a termination or release of the CRS, or within 10 days after the resignation of a CRS, the project owner shall submit the resume of the proposed new CRS to the CPM for review and approval. At the same time, the project owner shall also provide to the approved new CRS the AFC and all cultural documents, field notes, photographs, and other cultural materials generated by the project. If there is no alternate CRS in place to conduct the duties of the CRS, a previously approved monitor may serve in place of a CRS so that construction may continue up to a maximum of three days without a CRS. If cultural resources are discovered, then construction will remain halted until there is a CRS or alternate CRS to make a recommendation regarding significance.

At least 20 days prior to ground disturbance, the CRS shall provide a letter naming anticipated CRMs for the project and stating that the identified CRMs meet the minimum qualifications for cultural resource monitoring required by this Condition.

At least 5 days prior to additional CRMs beginning on-site duties during the project, the CRS shall provide additional letters to the CPM identifying the CRMs and attesting to their qualifications.

At least 10 days prior to beginning tasks, the resume(s) of any additional technical specialists shall be provided to the CPM for review and approval.

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.

CUL-2 Prior to the start of ground disturbance, if the CRS has not previously worked on the project, the project owner shall provide the CRS with copies of the AFC, data responses, and confidential cultural resources reports for the project. The project owner shall also provide the CRS and the CPM with maps and drawings showing the footprint of the power plant and all linear facilities. Maps shall include the appropriate USGS quadrangles and a map at an appropriate scale (e.g., 1:2000 or 1" = 200') for plotting cultural features or materials. If the CRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the CRS and CPM. The CPM shall review submittals and, in consultation with the CRS, approve those that are appropriate for use in cultural resources planning activities. No ground disturbance shall occur prior to CPM approval of maps and drawings, unless specifically approved by the CPM.

If construction of the project would proceed in phases, maps and drawings, not previously provided, shall be submitted prior to the start of each phase. Written notice identifying the proposed schedule of each project phase shall be provided to the CRS and CPM.

Weekly, until ground disturbance is completed, the project construction manager shall provide to the CRS and CPM a schedule of project activities for the following week, including the identification of area(s) where ground disturbance will occur during that week.

The project owner shall notify the CRS and CPM of any changes to the scheduling of the construction phases.

Verification: At least 40 days prior to the start of ground disturbance, the project owner shall provide the AFC, data responses, and confidential cultural resource documents to the CRS, if needed, and the subject maps and drawings to the CRS and CPM. The CPM will review submittals in consultation with the CRS and approve maps and drawings suitable for cultural resources planning activities.

At least 15 days prior to the start of ground disturbance, if there are changes to any project-related footprint, the project owner shall provide revised maps and drawings for the changes to the CRS and CPM.

At least 15 days prior to the start of each phase of a phased project, the project owner shall submit the appropriate maps and drawings, if not previously provided, to the CRS and CPM.

Weekly, during ground disturbance, a current schedule of anticipated project activity shall be provided to the CRS and CPM by letter, email, or fax.

Within 5 days of changing the scheduling of phases of a phased project, the project owner shall provide written notice of the changes to the CRS and CPM.

CUL-3 Prior to the start of ground disturbance, the project owner shall submit the Cultural Resources Monitoring and Mitigation Plan (CRMMP), as prepared by or under the direction of the CRS, to the CPM for review and approval. The CPM shall provide the project owner with a draft model CRMMP to adapt for project use. The author's name shall appear on the title page of the CRMMP. The CRMMP shall identify general and specific measures to minimize potential impacts to sensitive cultural resources. Implementation of the CRMMP shall be the responsibility of the CRS and the project owner. Copies of the CRMMP shall reside with the CRS, alternate CRS, each monitor, and the project owner's on-site construction manager. No ground disturbance shall occur prior to CPM approval of the CRMMP, unless specifically approved by the CPM.

The CRMMP shall include, but not be limited to, the following elements and measures:

1. The following statement included in the Introduction: "Any discussion, summary, or paraphrasing of the Conditions in this CRMMP is intended as general guidance and as an aid to the user in understanding the Conditions and their implementation. The Conditions, as written in the Commission Decision, shall supersede any summarization, description, or interpretation of the Conditions in the CRMMP. The Cultural Resources Conditions of Certification from the Commission Decision are contained in **Appendix A.**"
2. A proposed general research design that includes a discussion of archaeological research questions and testable hypotheses specifically applicable to the local prehistory and history of the project area, and a discussion of artifact collection, retention/disposal, and curation policies as related to the research

questions formulated in the research design. The research design shall specify that the preferred treatment strategy for any buried archaeological deposits is avoidance. A mitigation plan shall be prepared for any CRHR-eligible resource (as determined by the CPM), impacts to which cannot be avoided. A prescriptive treatment plan may be included in the CRMMP for limited data types.

3. Specification of the implementation sequence and the estimated time frames needed to accomplish all project-related tasks during the ground disturbance and post-ground-disturbance analysis phases of the project.
4. Identification of the person(s) expected to perform each of the tasks, their responsibilities, and the reporting relationships between project construction management and the mitigation and monitoring team.
5. A description of the manner in which Native American observers or monitors will be included, the procedures to be used to select them, and their role and responsibilities.
6. A description of all impact avoidance measures (such as flagging or fencing), to prohibit or otherwise restrict access to sensitive resource areas that may be found during construction and/or operation and may subsequently need to be avoided, and identification of the areas where these measures are to be implemented. The description shall address how these measures would be implemented and how long they would be needed to protect the resources from project-related effects.
7. A statement that all cultural resources encountered shall be recorded on a Department of Parks and Recreation (DPR) Form 523 and mapped and photographed. In addition, all archaeological materials collected as a result of the archaeological investigations (survey, testing, and data recovery) shall be curated in accordance with the State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, into a retrievable storage collection in a public repository or museum.
8. A statement that the project owner will pay all curation fees for artifacts recovered and for related documentation produced during cultural resources investigations conducted for the project. The project owner shall identify three possible curation facilities that could accept cultural resources materials resulting from project activities.

9. A statement that the CRS has access to equipment and supplies necessary for site mapping, photographing, and recovering any cultural resources materials that are encountered during ground disturbance and that cannot be treated prescriptively.
10. A description of the contents and format of the Cultural Resource Report (CRR), which shall be prepared according to ARMR Guidelines.

Verification: Upon approval of the CRS proposed by the project owner, the CPM will provide to the CRS an electronic copy of the draft model CRMMP.

At least 30 days prior to the start of ground disturbance, the project owner shall submit the CRMMP to the CPM for review and approval.

At least 30 days prior to the start of ground disturbance, in a letter to the CPM, the project owner shall agree to pay curation fees for any materials collected as a result of the archaeological investigations (survey, testing, and data recovery).

CUL-4 The project owner shall submit the Cultural Resources Report (CRR) to the CPM for approval. The CRR shall be written by or under the direction of the CRS and shall be provided in the ARMR format. The CRR shall report on all field activities related to the implementation of the CRMMP, including dates, times and locations, findings, samplings, and analyses. All survey reports, Department of Parks and Recreation (DPR) 523 forms, and any additional research reports not previously submitted to the California Historic Resource Information System (CHRIS) and the State Historic Preservation Officer (SHPO) shall be included as an appendix to the CRR.

If the project owner requests a suspension of ground disturbance and/or construction activities, then a draft CRR that covers all cultural resources activities associated with the project shall be prepared by the CRS and submitted to the CPM for review and approval on the same day as the suspension/extension request. The draft CRR shall be retained at the project site in a secure facility until ground disturbance and/or construction resumes or the project is withdrawn. If the project is withdrawn, then a final CRR shall be submitted to the CPM for review and approval at the same time as the withdrawal request.

Verification: Within 90 days after completion of ground disturbance (including landscaping), the project owner shall submit the CRR to the CPM for review and approval. If any reports have previously been sent to the CHRIS,

then receipt letters from the CHRIS or other verification of receipt shall be included in an appendix.

Within 90 days after completion of ground disturbance (including landscaping), if cultural materials requiring curation were collected, the project owner shall provide to the CPM a copy of an agreement with, or other written commitment from, a curation facility that meets the standards stated in the California State Historical Resources Commission's *Guidelines for the Curation of Archaeological Collections*, to accept cultural materials from this project. Any agreements concerning curation will be retained and available for audit for the life of the project.

Within 10 days after CPM approval of the CRR, the project owner shall provide documentation to the CPM that copies of the CRR have been provided to the SHPO, the CHRIS, the curating institution, if archaeological materials were collected, and to the Chairperson(s) of any Native American groups requesting copies of project-related reports.

Within 30 days after requesting a suspension of construction activities, the project owner shall submit a draft CRR to the CPM for review and approval.

CUL-5 Prior to and for the duration of ground disturbance, the project owner shall provide Worker Environmental Awareness Program (WEAP) training to all new workers within their first week of employment at the project site, along the linear facilities routes, and at laydown areas, roads, and other ancillary areas. The training shall be prepared by the CRS, may be conducted by any member of the archaeological team, and may be presented in the form of a video. The CRS shall be available (by telephone or in person) to answer questions posed by employees. The training may be discontinued when ground disturbance, including landscaping, is completed. The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Samples or visuals of artifacts that might be found in the project vicinity;
3. A discussion of what such artifacts may look like when partially buried, or wholly buried and then freshly exposed;
4. A discussion of what prehistoric and historical archaeological deposits look like at the surface and when exposed during construction, and the range of variation in the appearance of such deposits;

5. Instruction that the CRS, alternate CRS, and CRMs have the authority to halt construction in the area of a discovery to an extent sufficient to ensure that the resource is protected from further impacts, as determined by the CRS;
6. Instruction that employees are to halt work on their own in the vicinity of a potential cultural resources discovery and shall contact their supervisor and the CRS or CRM, and that redirection of work would be determined by the construction supervisor and the CRS;
7. An informational brochure that identifies reporting procedures in the event of a discovery;
8. An acknowledgement form signed by each worker indicating that they have received the training; and
9. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

No ground disturbance shall occur prior to implementation of the WEAP program, unless such activities are specifically approved by the CPM.

Verification: At least 30 days prior to the beginning of ground disturbance, the CRS shall provide the training program draft text and graphics and the informational brochure to the CPM for review and approval.

At least 15 days prior to the beginning of ground disturbance, the CPM will provide to the project owner a WEAP Training Acknowledgement form for each WEAP-trained worker to sign.

Monthly, the project owner shall provide in the Monthly Compliance Report (MCR) the WEAP Training Acknowledgement forms of persons who have completed the training in the prior month and a running total of all persons who have completed training to date.

CUL-6 The project owner shall ensure that the CRS, alternate CRS, or CRMs monitor full time all ground disturbance deeper than three feet associated with the excavation of the new stormwater retention pond and excavation of the foundation holes for the new support structures for the transmission lines connecting the project's switchyard to the Tesla-Manteca 115-kV transmission line, to ensure there are no impacts to undiscovered archaeological resources.

If, during other ground disturbance at the project site and at laydown areas, roads, and other ancillary areas, any buried archaeological

materials, as defined in the CRMMP, are discovered, the discovery shall immediately be reported to the construction supervisor, who shall halt or redirect ground disturbance in an area around the discovery sufficiently large to ensure that the resource is protected from further impacts, and who shall notify the project owner of the discovery. The project owner shall notify the CRS and the CPM. The CRS shall treat the discovery as provided in **CUL-7**.

Once a discovery of buried archaeological materials has been made, the CRS shall recommend to the CPM, with justifications, whether or not routine archaeological monitoring of ground disturbance should be initiated and where the routine monitoring should be conducted. If the CRS recommends monitoring, and the CPM approves it, the project owner shall ensure that the CRS, alternate CRS, or CRMs monitor full time all ground disturbance in the locations identified by the CRS, to ensure there are no impacts to undiscovered archaeological resources.

Full-time archaeological monitoring for this project shall be the archaeological monitoring of all ground-disturbing activities in the locations identified by the CRS for as long as the activities are ongoing. Where excavation equipment is actively removing dirt and hauling the excavated material farther than fifty feet from the location of active excavation, full-time archaeological monitoring shall require at least two monitors per excavation area. In this circumstance, one monitor shall observe the location of active excavation and a second monitor shall inspect the dumped material. For excavation areas where the excavated material is dumped no further than fifty feet from the location of active excavation, one monitor shall both observe the location of active excavation and inspect the dumped material.

In the event that the CRS believes that the current level of monitoring is not appropriate in certain locations, a letter or e-mail detailing the justification for changing the level of monitoring shall be provided to the CPM for review and approval prior to any change in the level of monitoring.

The research design in the CRMMP shall govern the collection, treatment, retention/disposal, and curation of any archaeological materials encountered. On forms provided by the CPM, CRMs shall keep a daily log of any monitoring and other cultural resources activities and any instances of non-compliance with the Conditions and/or applicable LORS. Copies of the daily monitoring logs shall be provided by the CRS to the CPM, if requested by the CPM. From these logs, the CRS shall compile a monthly monitoring summary report to be included in the MCR. If there are no monitoring activities, the summary report shall specify why monitoring has been suspended.

The CRS or alternate CRS shall report daily to the CPM on the status of the project's cultural resources-related activities, unless reducing or ending daily reporting is requested by the CRS and approved by the CPM.

The CRS, at his or her discretion, or at the request of the CPM, may informally discuss cultural resources monitoring and mitigation activities with Energy Commission technical staff.

Cultural resources monitoring activities are the responsibility of the CRS. Any interference with monitoring activities, removal of a monitor from duties assigned by the CRS, or direction to a monitor to relocate monitoring activities by anyone other than the CRS shall be considered non-compliance with these Conditions.

Upon becoming aware of any incidents of non-compliance with the Conditions and/or applicable LORS, the CRS and/or the project owner shall notify the CPM by telephone or e-mail within 24 hours. The CRS shall also recommend corrective action to resolve the problem or achieve compliance with the Conditions. When the issue is resolved, the CRS shall write a report describing the issue, the resolution of the issue, and the effectiveness of the resolution measures. This report shall be provided in the next MCR for the review of the CPM.

A Native American monitor shall be obtained to monitor ground disturbance along with the CRS, the alternate CRS, or the CRMs in areas where Native American artifacts were discovered. Contact lists of interested Native Americans and guidelines for monitoring shall be obtained from the Native American Heritage Commission. Preference in selecting a monitor shall be given to Native Americans with traditional ties to the area that shall be monitored. If efforts to obtain the services of a qualified Native American monitor are unsuccessful, the project owner shall immediately inform the CPM. The CPM will either identify potential monitors or will allow ground disturbance to proceed without a Native American monitor.

Verification: At least 30 days prior to the start of ground disturbance, the CPM will provide to the CRS an electronic copy of a form to be used as a daily monitoring log.

Monthly, while monitoring is on-going, the project owner shall include in each MCR a copy of the monthly summary report of cultural resources-related monitoring prepared by the CRS and shall attach any new DPR 523A forms completed for finds treated prescriptively, as specified in the CRMMP.

At least 24 hours prior to implementing a proposed change in monitoring level, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for changing the monitoring level.

Daily, as long as no cultural resources are found, the CRS shall provide a statement that "no cultural resources over 50 years of age were discovered" to the CPM as an e-mail or in some other form acceptable to the CPM.

At least 24 hours prior to reducing or ending daily reporting, the project owner shall submit to the CPM, for review and approval, a letter or e-mail (or some other form of communication acceptable to the CPM) detailing the CRS's justification for reducing or ending daily reporting.

No later than 30 days following the discovery of any Native American cultural materials, the project owner shall submit to the CPM copies of the information transmittal letters sent to the Chairpersons of the Native American tribes or groups who requested the information. Additionally, the project owner shall submit to the CPM copies of letters of transmittal for all subsequent responses to Native American requests for notification, consultation, and reports and records.

Within 15 days of receiving them, the project owner shall submit to the CPM copies of any comments or information provided by Native Americans in response to the project owner's transmittals of information.

CUL-7 Prior to the start of ground disturbance, to provide for the possibility that a cultural resources discovery could be made while CRS-recommended and CPM-approved monitoring is on-going, the project owner shall grant authority to halt project-related ground disturbance to the CRS, alternate CRS, and the CRMs. Redirection of ground disturbance shall be accomplished under the direction of the construction supervisor in consultation with the CRS.

In the event cultural resources over 50 years of age or, if younger, determined exceptionally significant by the CPM, are found, or impacts to such resources can be anticipated, ground disturbance shall be halted or redirected in an area around the discovery sufficiently large to ensure that the resource is protected from further impacts. CRS-recommended monitoring and daily reporting, as provided in **CUL-6**, shall continue during the project's ground-disturbing activities elsewhere. The halting or redirection of ground disturbance shall remain in effect until the CRS has visited the discovery, and all of the following have occurred:

1. The CRS has notified the project owner, and the CPM has been notified within 24 hours of the discovery, or by Monday morning if

the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning, including a description of the discovery (or changes in character or attributes), informed of the action taken (i.e., work stoppage or redirection), provided a recommendation of CRHR eligibility, and provided recommendations for mitigation of any cultural resources discoveries, whether or not a determination of CRHR eligibility has been made.

2. If the discovery would be of interest to Native Americans, the CRS has notified all Native American groups that expressed a desire to be notified in the event of such a discovery.
3. The CRS has completed field notes, measurements, and photography for a DPR 523 "Primary" form. Unless the find can be treated prescriptively, as specified in the CRMMP, the "Description" entry of the DPR 523 "Primary" form shall include a recommendation on the CRHR eligibility of the discovery. The project owner shall submit completed forms to the CPM.
4. The CRS, the project owner, and the CPM have conferred, and the CPM has concurred with the recommended eligibility of the discovery and approved the CRS's proposed data recovery, if any, including the curation of the artifacts, or other appropriate mitigation; and any necessary data recovery and mitigation have been completed.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall provide the CPM and CRS with a letter confirming that the CRS, alternate CRS, and CRMs have the authority to halt project-related ground disturbance in the vicinity of a cultural resources discovery, and that the project owner shall ensure that the CRS notifies the CPM within 24 hours of a discovery, or by Monday morning if the cultural resources discovery occurs between 8:00 AM on Friday and 8:00 AM on Sunday morning.

Within 48 hours of the discovery of an archaeological or ethnographic resource, the project owner shall ensure that the CRS notifies all Native American groups that expressed a desire to be notified in the event of such a discovery.

Unless the find can be treated prescriptively, as specified in the CRMMP, completed DPR 523 forms for resources newly discovered during ground disturbance shall be submitted to the CPM for review and approval no later than 24 hours following the notification of the CPM, or 48 hours following the completion of data recordation/recovery, whichever the CRS decides is more appropriate for the subject cultural resource.

D. GEOLOGICAL AND PALEONTOLOGICAL RESOURCE

This section summarizes the record concerning the project's potential effects relating to geological and paleontological resources. The evidence evaluates whether project-related activities could result in exposure to geological hazards, as well as whether the facility can be designed and constructed to avoid any such hazard which could impair its proper functioning. These include faulting and seismicity, liquefaction, dynamic compaction, hydrocompaction, subsidence, expansive soils, landslides, tsunamis, and seiches. Next, the evidence of record assesses whether the project will impact any geologic or mineralogical resources. Finally, the analysis of record examines whether fossilized remains or trace remnants of prehistoric plants or animals are likely to be present at the site and, if so, whether the project's potential impacts to these resources are adequately mitigated. The parties did not dispute any matters in this discipline. (11/30/2009 RT 6-9; Exs. 9; 13; 56; 58; 59; 61; 87; 88; 200, § 5.2.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Geologic Hazards

The project site is located in San Joaquin County, along the boundary between the Coast Range and the Great Valley (Central Valley) physiographic provinces. The Great Valley is approximately 400 miles long and 60 miles wide, bounded on the north by low-lying hills; on the northeast by the volcanic plateau of the Cascade Range; on the west by the Coast Ranges; on the east by the Sierra Nevada; and on the south by the Coast Ranges and the Tehachapi Mountains. The Great Valley is characterized by dissected uplands and relatively undeformed low alluvial plains and fans, river flood plains and channels, and lake bottoms. Much of the valley fill alluvium is underlain by marine and non-marine sedimentary rocks and crystalline basement which have undergone anticlinal and synclinal folding and faulting related to regional tectonism. This tectonism has been uplifting the Coast Ranges since the middle Jurassic period. (Ex. 200, p. 5.2-4.)

The site is immediately underlain by Quaternary alluvium deposits that form the Great Valley province. These sedimentary deposits are interbedded light-gray to grayish-brown to yellowish-brown gravel, sand, silt, and clay. The sedimentary deposits extend to as much as 3,000 feet and are underlain by Tertiary to Jurassic age sedimentary rocks of the Great Valley Sequence to an approximate

depth of 12,000 feet. Mesozoic and Paleozoic age crystalline rocks of basement complex are present below 12,000 feet. (*Id.*)

The site is also underlain by stiff to hard, moderately to highly expansive clay soils that extend from the surface to depths between two and seven feet. The surficial clay soils are classified as dry to moist, lean to fat clay and as containing medium to high plasticity fines. This surface clay layer is underlain by sandy silt, sandy clay, and/or silty clay soils and occasional layers of sand and gravel. The fine grain soils are classified as moist, very stiff to hard sandy silt to sandy lean clay. The granular soils are classified as saturated very dense silty sand with gravel to clayey gravel with sand. The depth to groundwater varies between 25 and 50 feet below the surface. (*Id.*)

Because of its geologic setting, the site could be subject to intense levels of earthquake-related ground shaking. Several active and potentially active faults related to regional strike-slip faulting and compressional tectonics are present within 50 miles of the GWF Tracy site.³¹ (Ex. 200, pp. 5.2-1, 5.2-4.) However, the site parcel is not crossed by any known active faults, nor does it lie within a special studies zone. Moreover, no active faults crossing the project site's boundaries or the linear facilities' routes are shown on published maps. (Ex. 200, p. 5.2-9.)

According to the evidence, the nearest major active fault is Segment 7 of the Great Valley Fault. This is located approximately 500 feet southwest of the site. This fault is characterized as a Type B fault with reverse and 15-degree-west dipping structure, having a slip rate of approximately 1.5 mm/year.³² The next closest fault from the site is the Greenville Fault, about 9.4 miles west of the site. The Greenville Fault is also a Type B fault and has a slip rate of approximately 5.0 mm/year. The closest Type A fault, the Hayward Fault, is more than 26 miles west of the site and has a slip rate of as much as 9.0 mm/year. The Greenville Fault, Hayward Fault, and most of the other faults within 50 miles of the project site are northwest-striking, right-lateral strike-slip faults related to regional transform faulting. (*Id.*)

³¹ The evidence of record identifies active faults in the general site vicinity on Table 2 of Exhibit 200 (p. 5.2-6).

³² Type A faults have slip-rates of ≥ 5 millimeters per year (mm/year) and are capable of producing an earthquake of magnitude 7.0 or greater. Type B faults have slip-rates of 2 to 5 mm per year and are capable of producing an earthquake of magnitude 6.5 to 7.0. The evidence identifies fourteen Type A Faults and 24 Type B faults within 50 miles of the site. (Ex. 200, p. 5.2-9.)

The evidence also shows that the estimated peak horizontal ground acceleration at the site would be 0.78 times the acceleration of gravity (0.78g) for a bedrock acceleration based on 2 percent probability of exceedance in 50 years. The evidence characterizes the potential for geologic factors to impact the project site as “low.” (Ex. 200, pp. 5.2-1, 5.2-8, 5.2-9.)

The evidence further shows that:

- Since the depth to ground water is 25-50 feet below existing grade, and the site is underlain by very stiff to hard clay and silt soils, the potential for liquefaction is low. Consequently, the potential for lateral spreading of the site surface during seismic events is negligible.
- Deposits underlying the site are generally too dense to allow significant dynamic compaction. The potential for significant hydrocompaction is remote because of the consistency of silt soils present.
- Subsidence, landslides, flooding, tsunamis, and seiches similarly pose insignificant risks. (Ex. 200, pp. 5.2-9 to 5.2-11.)
- Surficial clay soils in the project area show medium to high plasticity and are moderately to highly expansive. Potential hazards from these expansive soils, as well as hazards from ground shaking and foundation settlement, may be adequately mitigated by measures which will be identified in the project-specific design-level geotechnical reports required in **Facility Design** Conditions **GEN-1**, **GEN-5**, and **CIVIL-1**. (Ex. 200, pp. 5.2-1, 5.2-7, 5.2-11.)

2. Mineralogic and Paleontologic Impacts

The site and its associated linear facilities lie within Mineral Resource Zone 1; this essentially means that there are no known significant mineral resources present, nor are significant resources likely to be present. (Ex. 200, p. 5.2-11.)

Viable aggregate deposits and natural gas fields exist in the project vicinity. Site-specific exploration, however, did not reveal the presence of any significant amount of potential aggregate deposits, and natural gas exploration in the immediate vicinity of the project site did not encounter any such resources. Given the absence of rock outcrops on or near the site surface, the evidence establishes that there is very low potential for this site to have economically valuable geologic or mineralogic deposits. (Ex. 200, pp. 5.2-12.)

The evidence contains a review of the information submitted by Applicant regarding the presence of paleontological resources. Staff also conducted independent literature and records reviews. The results indicate that several paleontological localities associated with construction of the Delta-Mendota Canal have been recorded southwest and northwest of the GWF Tracy site, and paleontological resources were encountered during construction of the existing peaker plant. As a result, the potential to encounter paleontological resources during construction of the project is high. The evidence also shows, however, that Conditions of Certification **PAL-1** to **PAL-7**, below, provide adequate protection to any resources present as the Conditions will mitigate any construction impacts to less than significant levels. This mitigation will occur through a worker education program in conjunction with the monitoring of earthworks activities by a professional paleontologist. (Ex. 200, pp. 5.2-12 to 5.2-13.)

Finally, for present purposes, cumulative impacts correspond to the project's potential incremental effect, together with other closely related past, present, and reasonably foreseeable future projects, to compound or increase the incremental effects upon geologic, mineralogic, and paleontologic resources. Potential cumulative effects in this instance are essentially limited to regional subsidence due to groundwater withdrawal. The evidence establishes that the project will not involve groundwater pumping and will not, therefore, contribute to a cumulative impact. (Ex. 200, p. 5.2-14.)

FINDINGS OF FACT

Based on the uncontroverted evidence, we make the following findings:

1. The project is located in an active geologic area.
2. Ground shaking, expansive soils, and foundation settlement are the main geologic hazards which could affect the GWF Tracy Combined Cycle Project.
3. Potential geologic hazards to the project are effectively mitigated by standard engineering design measures as specified in Conditions **GEN-1**, **GEN-5**, and **CIVIL-1** of the **Facility Design** section of this Decision.
4. Liquefaction, lateral spreading, dynamic compaction, hydrocompaction, ground subsidence, landslides, flooding, tsunamis, and seiches pose low or negligible project risks.

5. There is no evidence of existing or potential geological or mineralogical resources at the project site or along the linear alignments.
6. The project owner will implement several mitigation measures to avoid impacts to paleontological resources including worker education, preparing a Paleontological Monitoring and Mitigation Plan, and having a Paleontologic Resource Specialist on-site.

CONCLUSIONS OF LAW

1. The Conditions listed below ensure that project activities will not cause significant adverse direct or cumulative impacts to geological, mineralogical, or paleontological resources.
2. Compliance with the Conditions of Certification specified below will ensure that the GWF Tracy Combined Cycle Project conforms to all applicable laws, ordinances, regulations, and standards related to geological, mineralogical, and paleontological resources as identified in **Appendix A** of this Decision.

CONDITIONS OF CERTIFICATION

PAL-1 The project owner shall provide the Compliance Project Manager (CPM) with the resume and qualifications of its Paleontological Resource Specialist (PRS) for review and approval. If the approved PRS is replaced prior to completion of project mitigation and submittal of the Paleontological Resources Report, the project owner shall obtain CPM approval of the replacement PRS. The project owner shall keep resumes on file for qualified Paleontological Resource Monitors (PRMs). If a PRM is replaced, the resume of the replacement PRM shall also be provided to the CPM.

The PRS resume shall include the names and phone numbers of references. The resume shall also demonstrate to the satisfaction of the CPM the appropriate education and experience to accomplish the required paleontological resource tasks.

As determined by the CPM, the PRS shall meet the minimum qualifications for a vertebrate paleontologist as described in the Society of Vertebrate Paleontology (SVP) guidelines of 1995. The experience of the PRS shall include the following:

1. Institutional affiliations, appropriate credentials, and college degree;
2. Ability to recognize and collect fossils in the field;

3. Local geological and biostratigraphic expertise;
4. Proficiency in identifying vertebrate and invertebrate fossils; and
5. At least three years of paleontological resource mitigation and field experience in California and at least one year of experience leading paleontological resource mitigation and field activities.

The project owner shall ensure that the PRS obtains qualified paleontological resource monitors to monitor as he or she deems necessary on the project. Paleontologic Resource Monitors (PRMs) shall have the equivalent of the following qualifications:

- BS or BA degree in geology or paleontology and one year of experience monitoring in California; or
- AS or AA in geology, paleontology, or biology and four years' experience monitoring in California; or
- Enrollment in upper division classes pursuing a degree in the fields of geology or paleontology and two years of monitoring experience in California.

Verification:

At least 60 days prior to the start of ground disturbance, the project owner shall submit a resume and statement of availability of its designated PRS for on-site work.

At least 20 days prior to ground disturbance, the PRS or project owner shall provide a letter with resumes naming anticipated monitors for the project. The letter shall state that the identified monitors meet the minimum qualifications for paleontological resource monitoring required by the condition. If additional monitors are obtained during the project, the PRS shall provide additional letters and resumes to the CPM. The letter shall be provided to the CPM no later than one week prior to the monitor's beginning on-site duties.

Prior to the termination or release of a PRS, the project owner shall submit the resume of the proposed new PRS to the CPM for review and approval.

PAL-2 The project owner shall provide to the PRS and the CPM, for approval, maps and drawings showing the footprint of the power plant, construction laydown areas, and all related facilities. Maps shall identify all areas of the project where ground disturbance is anticipated. If the PRS requests enlargements or strip maps for linear facility routes, the project owner shall provide copies to the PRS and CPM. The site grading plan and plan and profile drawings for the utility lines will be acceptable for this purpose. The plan drawings shall show the location, depth, and extent of all ground disturbances and be at a scale between 1 inch = 40 feet and 1 inch = 100 feet. If the footprint of

the project or its linear facilities change, the project owner shall provide maps and drawings reflecting those changes to the PRS and CPM.

If construction of the project proceeds in phases, maps and drawings may be submitted prior to the start of each phase. A letter identifying the proposed schedule of each project phase shall be provided to the PRS and CPM. Before work commences on affected phases, the project owner shall notify the PRS and CPM of any construction phase scheduling changes.

At a minimum, the project owner shall ensure that the PRS or PRM consults weekly with the project superintendent or construction field manager to confirm area(s) to be worked the following week and until ground disturbance is completed.

Verification:

At least 30 days prior to the start of ground disturbance, the project owner shall provide the maps and drawings to the PRS and CPM.

If there are changes to the footprint of the project, revised maps and drawings shall be provided to the PRS and CPM at least 15 days prior to the start of ground disturbance.

If there are changes to the scheduling of the construction phases, the project owner shall submit a letter to the CPM within five days of identifying the changes.

PAL-3 The project owner shall ensure that the PRS prepares, and the project owner submits to the CPM for review and approval, a paleontological resources monitoring and mitigation plan (PRMMP) to identify general and specific measures to minimize potential impacts to significant paleontological resources. Approval of the PRMMP by the CPM shall occur prior to any ground disturbance. The PRMMP shall function as the formal guide for monitoring, collecting, and sampling activities and may be modified with CPM approval. This document shall be used as the basis of discussion when on-site decisions or changes are proposed. Copies of the PRMMP shall reside with the PRS, each monitor, the project owner's on-site manager, and the CPM.

The PRMMP shall be developed in accordance with the guidelines of the Society of Vertebrate Paleontology (SVP 1995) and shall include, but not be limited to, the following:

1. Assurance that the performance and sequence of project-related tasks, such as any literature searches, pre-construction surveys, worker environmental training, fieldwork, flagging or staking, construction monitoring, mapping and data recovery, fossil preparation and collection, identification and inventory, preparation

of final reports, and transmittal of materials for curation will be performed according to PRMMP procedures;

2. Identification of the person(s) expected to assist with each of the tasks identified within the PRMMP and the Conditions of Certification;
3. A thorough discussion of the anticipated geologic units expected to be encountered, the location and depth of the units relative to the project when known, and the known sensitivity of those units based on the occurrence of fossils either in that unit or in correlative units;
4. An explanation of why, how, and how much sampling is expected to take place and in what units. Include descriptions of different sampling procedures that shall be used for fine-grained and coarse-grained units;
5. A discussion of the locations of where the monitoring of project construction activities is deemed necessary, and a proposed plan for monitoring and sampling;
6. A discussion of procedures to be followed in the event of a significant fossil discovery, halting construction, resuming construction, and how notifications will be performed;
7. A discussion of equipment and supplies necessary for collection of fossil materials and any specialized equipment needed to prepare, remove, load, transport, and analyze large-sized fossils or extensive fossil deposits;
8. Procedures for inventory, preparation, and delivery for curation into a retrievable storage collection in a public repository or museum which meets the Society of Vertebrate Paleontology's standards and requirements for the curation of paleontological resources;
9. Identification of the institution that has agreed to receive data and fossil materials collected, requirements or specifications for materials delivered for curation and how they will be met, and the name and phone number of the contact person at the institution; and
10. A copy of the paleontological Conditions of Certification.

Verification: At least 30 days prior to ground disturbance, the project owner shall provide a copy of the PRMMP to the CPM. The PRMMP shall include an

affidavit of authorship by the PRS and acceptance of the PRMMP by the project owner evidenced by a signature.

PAL-4 Prior to ground disturbance and for the duration of construction activities involving ground disturbance, the project owner and the PRS shall prepare and conduct weekly CPM-approved training for the following workers: project managers, construction supervisors, foremen, and general workers involved with or who operate ground-disturbing equipment or tools. Workers shall not excavate in sensitive units prior to receiving CPM-approved worker training. Worker training shall consist of a CPM-approved video or in-person presentation. The training program may be combined with other training programs prepared for cultural and biological resources, hazardous materials, or other areas of interest or concern. No ground disturbance shall occur prior to CPM approval of the Worker Environmental Awareness Program (WEAP) unless specifically approved by the CPM.

The WEAP shall address the possibility of encountering paleontological resources in the field, the sensitivity and importance of these resources, and legal obligations to preserve and protect these resources.

The training shall include:

1. A discussion of applicable laws and penalties under the law;
2. Good quality photographs or physical examples of vertebrate fossils for project sites containing units of high paleontologic sensitivity;
3. Information that the PRS or PRM has the authority to halt or redirect construction in the event of a discovery or unanticipated impact to a paleontological resource;
4. Instruction that employees are to halt or redirect work in the vicinity of a find and to contact their supervisor and the PRS or PRM;
5. An informational brochure that identifies reporting procedures in the event of a discovery;
6. A WEAP certification of completion form signed by each worker indicating that he/she has received the training; and
7. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

Verification:

At least 30 days prior to ground disturbance, the project owner shall submit the proposed WEAP, including the brochure, with the set of reporting procedures for workers to follow.

At least 30 days prior to ground disturbance, the project owner shall submit the script and final video to the CPM for approval if the project owner is planning to use a video for interim training.

If the owner requests an alternate paleontological trainer, the resume and qualifications of the trainer shall be submitted to the CPM for review and approval prior to installation of an alternate trainer. Alternate trainers shall not conduct training prior to CPM authorization.

In the monthly compliance report (MCR), the project owner shall provide copies of the WEAP certification of completion forms with the names of those trained and the trainer or type of training (in-person or video) offered that month. The MCR shall also include a running total of all persons who have completed the training to date.

PAL-5 The project owner shall ensure that the PRS and PRM(s) monitor consistent with the PRMMP all construction-related grading, excavation, trenching, and augering in areas where potential fossil-bearing materials have been identified, both at the site and along any constructed linear facilities associated with the project. In the event that the PRS determines full-time monitoring is not necessary in locations that were identified as potentially fossil-bearing in the PRMMP, the project owner shall notify and seek the concurrence of the CPM.

The project owner shall ensure that the PRS and PRM(s) have the authority to halt or redirect construction if paleontological resources are encountered. The project owner shall ensure that there is no interference with monitoring activities unless directed by the PRS. Monitoring activities shall be conducted as follows:

1. Any change of monitoring from the accepted schedule in the PRMMP shall be proposed in a letter or email from the PRS and the project owner to the CPM prior to the change in monitoring and will be included in the monthly compliance report. The letter or email shall include the justification for the change in monitoring and be submitted to the CPM for review and approval.
2. The project owner shall ensure that the PRM(s) keeps a daily monitoring log of paleontological resource activities. The PRS may informally discuss paleontological resource monitoring and mitigation activities with the CPM at any time.

3. The project owner shall ensure that the PRS notifies the CPM within 24 hours of the occurrence of any incidents of non-compliance with any paleontological resources Conditions of Certification. The PRS shall recommend corrective action to resolve the issues or achieve compliance with the Conditions of Certification.
4. For any significant paleontological resources encountered, either the project owner or the PRS shall notify the CPM within 24 hours, or on Monday morning in the case of a weekend event, where construction has been halted because of a paleontological find.

The project owner shall ensure that the PRS prepares a summary of monitoring and other paleontological activities to be placed in the monthly compliance reports. The summary shall include the name(s) of PRS or PRM(s) active during the month; general descriptions of training and monitored construction activities; and general locations of excavations, grading, and other activities. A section of the report shall include the geologic units or subunits encountered, descriptions of samplings within each unit, and a list of identified fossils. A final section of the report shall address any issues or concerns about the project relating to paleontologic monitoring, including any incidents of non-compliance or any changes to the monitoring plan that have been approved by the CPM. If no monitoring took place during the month, the report shall include an explanation in the summary as to why monitoring was not conducted.

Verification: The project owner shall ensure that the PRS submits the summary of monitoring and paleontological activities in the MCR. When feasible, the CPM shall be notified 10 days in advance of any proposed changes in monitoring different from the plan identified in the PRMMP. If there is any unforeseen change in monitoring, the notice shall be given as soon as possible prior to implementation of the change.

PAL-6 The project owner, through the designated PRS, shall ensure that all components of the PRMMP are adequately performed including collection of fossil materials, preparation of fossil materials for analysis, analysis of fossils, identification and inventory of fossils, the preparation of fossils for curation, and the delivery for curation of all significant paleontological resource materials encountered and collected during project construction.

Verification: The project owner shall maintain in his/her compliance file copies of signed contracts or agreements with the designated PRS and other qualified research specialists. The project owner shall maintain these files for a period of three years after project completion and approval of the CPM-approved paleontological resource report (see **PAL-7**). The project owner shall be responsible for paying any curation fees charged by the museum for fossils

collected and curated as a result of paleontological mitigation. A copy of the letter of transmittal submitting the fossils to the curating institution shall be provided to the CPM.

PAL-7 The project owner shall ensure preparation of a Paleontological Resources Report (PRR) by the designated PRS. The PRR shall be prepared following completion of the ground-disturbing activities. The PRR shall include an analysis of the collected fossil materials and related information and be submitted to the CPM for review and approval.

The report shall include, but is not limited to, a description and inventory of recovered fossil materials; a map showing the location of paleontological resources encountered; determinations of sensitivity and significance; and a statement by the PRS that project impacts to paleontological resources have been mitigated below the level of significance.

Verification: Within 90 days after completion of ground-disturbing activities, including landscaping, the project owner shall submit the PRR under confidential cover to the CPM.

PAL-8 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.

**Certification of Completion
Worker Environmental Awareness Program
Tracy Combined Cycle Power Plant (08-AFC-07)**

This is to certify these individuals have completed a mandatory California Energy Commission-approved Worker Environmental Awareness Program (WEAP). The WEAP includes pertinent information on cultural, paleontological, and biological resources for all personnel (that is, construction supervisors, crews, and plant operators) working on-site or at related facilities. By signing below, the participant indicates that he/she understands and shall abide by the guidelines set forth in the program materials. Include this completed form in the Monthly Compliance Report.

No.	Employee Name	Title/Company	Signature
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
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23.			
24.			
25.			

Cultural Trainer: _____ Signature: _____ Date: ___/___/___

PaleoTrainer: _____ Signature: _____ Date: ___/___/___

Biological Trainer: _____ Signature: _____ Date: ___/___/___

VII. LOCAL IMPACT ASSESSMENT

In the following sections of this Decision, we review whether the GWF Tracy Project (GWF Tracy or Project) will result in significant local impacts such as public health or safety hazards, adverse traffic or visual effects, unmitigated noise, or an excessive burden on local community services. These potential impacts are discussed under the technical topics of land use, traffic and transportation, socioeconomics, noise, and visual resources.

A. LAND USE

The evidence on land use was undisputed. (Exs. 11, 75; Ex. 200, p. 4.5-1 et seq., pp. 4.12-13, 4.2-23; 11/30/09 RT 7:22 – 9:24)

SUMMARY AND DISCUSSION OF THE EVIDENCE

According to CEQA Guidelines,³³ a project results in significant land use impacts if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use.
- Conflict with existing zoning for agricultural use or a Williamson Act contract.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural uses.
- Physically disrupt or divide an established community.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction, or that would normally have jurisdiction, over the project. This includes, but is not limited to, a General Plan, community or specific plan, local coastal program, airport land use compatibility plan, or zoning ordinance.

³³ Title 14, Cal. Code Regs., Section 15000 et seq., Appendix G, Sections II, IX, XVI.

- Create individual environmental effects which, when considered with other impacts from the same project or in conjunction with impacts from other closely related past, present, and reasonably foreseeable future projects, are considerable, compound, or increase other environmental impacts. (Ex. 200, p. 4.5-6.)

Local ordinances and policies applicable to the project include the San Joaquin County General Plan 2010 and the San Joaquin County Development Title, which functions as a zoning code. (Exs. 11, § 5.6.3.3.1 et seq.; 200, p. 4.5-6.) Although the site is located about one mile southwest of the City of Tracy, it has not been annexed by the city and is not subject to the city's land use LORS. (Ex. 11, § 5.6.3.3.)

1. The Site

The 16.38-acre project site (including construction lay down) is situated in an unincorporated area of San Joaquin County on a single 40-acre parcel owned by GWF Energy, LLC, Assessor's Parcel Number (APN) 799-000-45.³⁴ The property is bounded by the Delta-Mendota Canal to the southwest, Kagehiro Ranch agricultural properties to the south and east, and the Union Pacific Railroad to the north. The Owens-Brockway glass manufacturing plant and the Nutting Rice warehouse are located immediately north of the railroad. The Tracy Biomass Power Plant is 0.6 mile northwest of the site. (Ex. 11, § 5.6.2.)

San Joaquin County's General Plan designates the site and surrounding area as General Agriculture (A/G), which applies to land suitable for agriculture and not planned for urban development. The site is zoned Agriculture (AG-40) under the County Development Title to preserve agricultural land for agricultural purposes. Power plants are a conditionally permitted use in the AG-40 zone. (Exs. 11, § 5.6.3.3.2; 200, p. 4.5-5.)

Segments 2 and 3 of the transmission line, which are proposed for reconductoring, are located almost entirely within unincorporated San Joaquin County.³⁵ Areas surrounding the transmission line include agricultural lands,

³⁴ Project components will be installed on the existing 13.1-acre TPP site as well as on 3.28 acres of adjacent agricultural land within the 40-acre parcel. The 12.3-acre construction lay down area is located adjacent to the site on the same 40-acre parcel and consists of agricultural land not currently in use. (Ex. 200, p. 4.5-3.)

³⁵ A portion of the transmission line's right-of-way (ROW) for Segment 3 crosses into the City of Lathrop; however, the ROW already exists and reconductoring activities would not change the existing character of the transmission corridor. We therefore find that Lathrop's land use LORS are not triggered. (Ex. 11, § 5.6.2.)

commercial and residential properties, industrial parcels, open space, and transportation corridors, such as Interstate 580. Reconductoring will not involve major ground disturbance or result in any land use impacts. (Exs. 200, pp. 4.5-3-4.5-4; 11, § 5.6.4.1.)

2. Potential Impacts

Applicant's **Figure 5.6-1a**, replicated at the end of this section, shows existing land uses at the site and surrounding areas that could be affected by the project.

Conversion of Farmland. The site is not currently subject to a Williamson Act contract. The previous contract expired in March 2002, and was not renewed. (Ex. 11, § 5.6.3.2.2.)

The Farmland Mapping and Monitoring Program (FMMP) of the California Department of Conservation (CDC) has designated most of the project site, the laydown area, and 0.25 mile on either side of Segments 2 and 3 of the transmission line as Prime Farmland, with the southwestern edge of the site designated as Unique Farmland, and the northwestern edge of the site designated as Farmland of Local Importance. (Ex. 200, p. 4.5-4.)

Potential impacts involve the *temporary* conversion of 12.3 acres of Prime Farmland for construction lay down and the *permanent* conversion of 3.28 acres of Prime Farmland for expansion of the site. Since the lay down area will be restored to its pre-construction condition under the TPP's existing agricultural mitigation plan, use of the lay down area will not contribute to conversion of farmland in the region. However, the *permanent* conversion of Prime Farmland is considered a potentially significant land use impact. (Ex. 200, p. 4.5-6 et seq.)

Staff used the CDC's Agricultural Land Evaluation and Site Assessment (LESA) Model to assess the project's permanent effects on agriculture and Prime Farmland.³⁶ The LESA analysis showed that the project's *permanent* conversion of 3.28 acres of Prime Farmland would exceed the significance threshold and result in a significant land use impact. (Ex. 200, p. 4.5-8.)

³⁶ The LESA Model provides a quantitative means of determining agricultural land and farmland disturbance acreages and quantitative thresholds to determine the level of severity of those land disturbance impacts. The results of the LESA Model are then used to determine the occurrence of significant impacts on farmland based on the significance thresholds delineated in Appendix G of the CEQA Guidelines. (Ex. 200, pp. 4.5-7, 4.5-25 [Appendix LU-1].)

The Applicant agreed to mitigate this impact by funding the preservation of other Prime Farmland in the project vicinity at a 1:1 ratio for the permanent conversion of 3.28 acres of farmland at the site. We have adopted Condition of Certification **LAND-1** to ensure that the project owner will implement this mitigation measure prior to the start of construction. (Ex. 200, pp. 4.5-8 to 4.5-9.) Condition **LAND-1** requires the project owner to provide a mitigation fee to the American Farmland Trust (or other land trust) and to continue the TPP's existing agricultural mitigation plan for long-term management of the agricultural lands on the unconverted portion of the 40-acre parcel owned by GWF Energy, LLC. Condition **LAND-1** is consistent with the existing TPP Condition of Certification **LAND-2**, which remains in effect. (*Id.*)

Division of Existing Community. There is no evidence that the project will physically divide or disrupt an established community. Given its location on contiguous private property in a rural/industrial area of unincorporated San Joaquin County, the project does not alter existing residential, recreational, commercial, institutional, or other industrial land use patterns in the area. (Ex. 200, p. 4.5-10.)

Conflict with Habitat or Conservation Plan. The project site is subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP), which is administered by the San Joaquin County Council of Governments (SJCOG) to implement the federal Endangered Species Act. Under TPP Condition of Certification **BIO-9**, the TPP was required to pay a mitigation fee of \$58,474 to SJCOG to compensate for the loss of 34.6 acres of habitat. Applicant claims that the additional 3.28 acres used for the GWF Power Plant are included in the 34.6-acre area covered by the TPP's habitat mitigation fee. Staff agrees. Under the SJMSCP, the project owner is not required to mitigate further for activities on those same acres. The TPP's permit for protection of special-status wildlife on the site continues to apply and must be implemented for GWF Tracy. See discussion and Condition of Certification **BIO-6** in the Biological Resources section of this Decision. (Ex. 11, § 5.6.3.3.3; Ex. 200, p. 4.2-13, 4.2-23.)

3. Consistency with Land Use LORS.

Power generation is a conditional use in the AG-40 zone. (Development Title Division 6: Chapter 9-6065.6—Special Use Regulations.) Staff reviewed the use permit findings that the County would have made but for the Energy

Commission's exclusive jurisdiction and found that the project would be eligible for a conditional use permit.³⁷ (Ex. 200, pp. 4.5-19--4.5-20.)

In 2001, the County found that the TPP was consistent with the "Utility Services – Major" category of the Development Title, and agreed that the TPP was eligible for a use permit as a Major Utility in the AG-40 zone. (Ex. 200, pp. 4.5-19--4.5-20.)

In the instant case, the county declined Staff's request for input on GWF Tracy's eligibility for a use permit. Staff noted, however, that the County's General Plan - Agricultural Lands Policy 5 allows non-agricultural uses when there are unusual site area requirements, operational characteristics, resource orientation, or because the non-agricultural use provides a service to the surrounding agricultural areas. According to Staff, GWF Tracy meets the requirements of Policy 5 because it is an expansion of the existing TPP and must locate on the site to use the existing facilities (electrical transmission facilities, natural gas pipeline, and water supply). The site is designed to consolidate non-agricultural uses to prevent disruption of agriculture on the adjacent non-converted land. Since the county has previously approved the existing TPP as well as other industrial uses north of the site, Staff presumes that the county would likely view GWF Tracy as an appropriate land use at the site and eligible for a use permit as a Major Utility in the AG-40 zone. (Ex. 200, pp. 4.5-15--4.5-20, Land Use Table 2.) There is no evidence that could refute Staff's conclusions.

Staff's **Land Use Table 2**, replicated at the end of this section, summarizes the project's compliance with applicable Land Use LORS.

4 Land Use Compatibility

Zoning ordinances are designed to ensure the compatibility of adjacent zoning districts by limiting uses that would result in adverse impacts to surrounding properties. A project may be considered an incompatible use if it introduces a new source of pollution or hazard within close proximity to sensitive receptors, including residential areas, schools, day-care centers, hospitals, and nursing homes. Proximity is defined as "within 1,000 feet" of a school (Health & Safety Code, §§ 42301.6–9) or within 0.25 mile of a sensitive receptor under CEQA. Proximity is not necessarily a determining factor for a potentially significant

³⁷ The Commission's regulations direct Staff to give due deference to a local agency's recommendations regarding matters within that agency's jurisdiction. [Cal. Code Regs., tit. 20, §§ 1714.5(b) and 1744(e).]

impact, but it is the threshold generally used to require further evaluation. (Ex. 200, p. 4.5-20.)

Although GWF Tracy is less than one mile from scattered agriculture-related rural residences, existing permitted industrial uses in the project area include two power plants (TPP and Tracy Biomass) as well as the manufacturing facilities north of the site. Thus, the project is similar in nature to the existing surrounding uses. (Ex. 200, p. 4.5-20.) See Staff's **Land Use Table 2** at the end of this section.

There is no evidence that the project will result in any unmitigated public health or environmental impacts to rural residences within a one-mile radius of the site. See the **Air Quality, Hazardous Materials Management, Noise, Public Health, Traffic and Transportation, and Visual Resources** sections of this Decision. (Ex. 200, p. 4.5-20.)

Since the primary purpose of the AG-40 zone is to preserve agriculture with allowance for industrial development in an area suitable for this use, we find that the project is compatible with surrounding uses and zoning districts.

5. Cumulative Impacts

A project may result in a significant adverse cumulative impact where its effects are cumulatively considerable. (Cal. Code Regs., tit. 14, § 15130.)

In 2000, the City of Tracy adopted Measure A, which allows the development of several mixed use projects within one mile of the GWF Tracy site, including residential housing, schools, churches, and light industrial and commercial facilities. The development of new residential areas may cause a potential cumulative impact on the existing industrial area by creating a conflict between the desire of future residents for quiet and unpolluted neighborhoods versus the noise and permitted air emissions of existing industrial facilities. Staff recommends that the city's Measure A scoping plans be updated to require buffer zones between residential and industrial areas and to limit the expansion of residential development in the project vicinity. (Ex. 200, p. 4.5-21.)

The evidence indicates that GWF Tracy in combination with other proposed development will contribute to a regional loss of open space and agricultural land. As a result, the project presents a significant cumulative impact on open space and agricultural resources. We believe that implementation of Condition

LAND-1 will mitigate the project's cumulative impact to an insignificant level and ensure that GWF Tracy will not contribute to the loss of agricultural lands in the county. (Ex. 200, p. 4.5-21.)

FINDINGS OF FACT

Based on the uncontroverted evidence, the Commission makes the following findings:

1. GWF Tracy will result in the *permanent* conversion of 3.28 acres of Prime Farmland to non-agricultural use at the project site.
2. To compensate for the loss of 3.28 acres of Prime Farmland at the site, the project owner will provide a mitigation fee to an agricultural land trust to preserve Prime Farmland in the project vicinity at a 1:1 ratio.
3. The project will cause the *temporary* conversion of 12.3 acres of Prime Farmland for construction lay down; however the lay down area will be restored to its pre-construction condition and will not result in the conversion of farmland.
4. The project site is not subject to a Williamson Act contract.
5. There is no evidence that the project will physically divide or disrupt an established community.
6. The project is subject to the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan; however, the existing Tracy Power Plant (TPP) has already paid a mitigation fee for lost habitat, which included the 3.28 acres taken by the GWF Tracy Project, and no additional fee is required.
7. Local ordinances and policies applicable to GWF Tracy include the San Joaquin County General Plan 2010, and the San Joaquin County Development Title, which functions as a zoning code.
8. The project site is designated General Agriculture (A/G) under the San Joaquin General Plan and zoned Agriculture (AG-40) under the County Development Title.
9. A power plant is a conditionally permitted use in the AG-40 zone.
10. GWF Tracy is eligible for a use permit under the County's General Plan and Development Title, and is consistent with applicable LORS.

11. GWF Tracy is compatible with surrounding industrial uses within the AG-40 zoning district.
12. Any direct, indirect, or cumulative land use impacts resulting from development of GWF Tracy will be mitigated to insignificant levels.

CONCLUSIONS OF LAW

1. With implementation of the mitigation measures specified in this Decision, and in the Condition of Certification below, we conclude that construction and operation of GWF Tracy will not result in significant adverse direct, indirect, and cumulative land use impacts.
2. The evidence of record contains an adequate analysis of the land use laws, ordinances, regulations, and standards that are relevant to the project and establishes that the project will create no unmitigated, significantly adverse land use effects as defined under the California Environmental Quality Act.
3. The Condition of Certification, below, ensures that GWF Tracy will be designed, constructed, and operated in conformance with the applicable land use laws, ordinances, regulations, and standards identified in the evidentiary record and listed in the pertinent portion of **Appendix A** of this Decision.

CONDITION OF CERTIFICATION

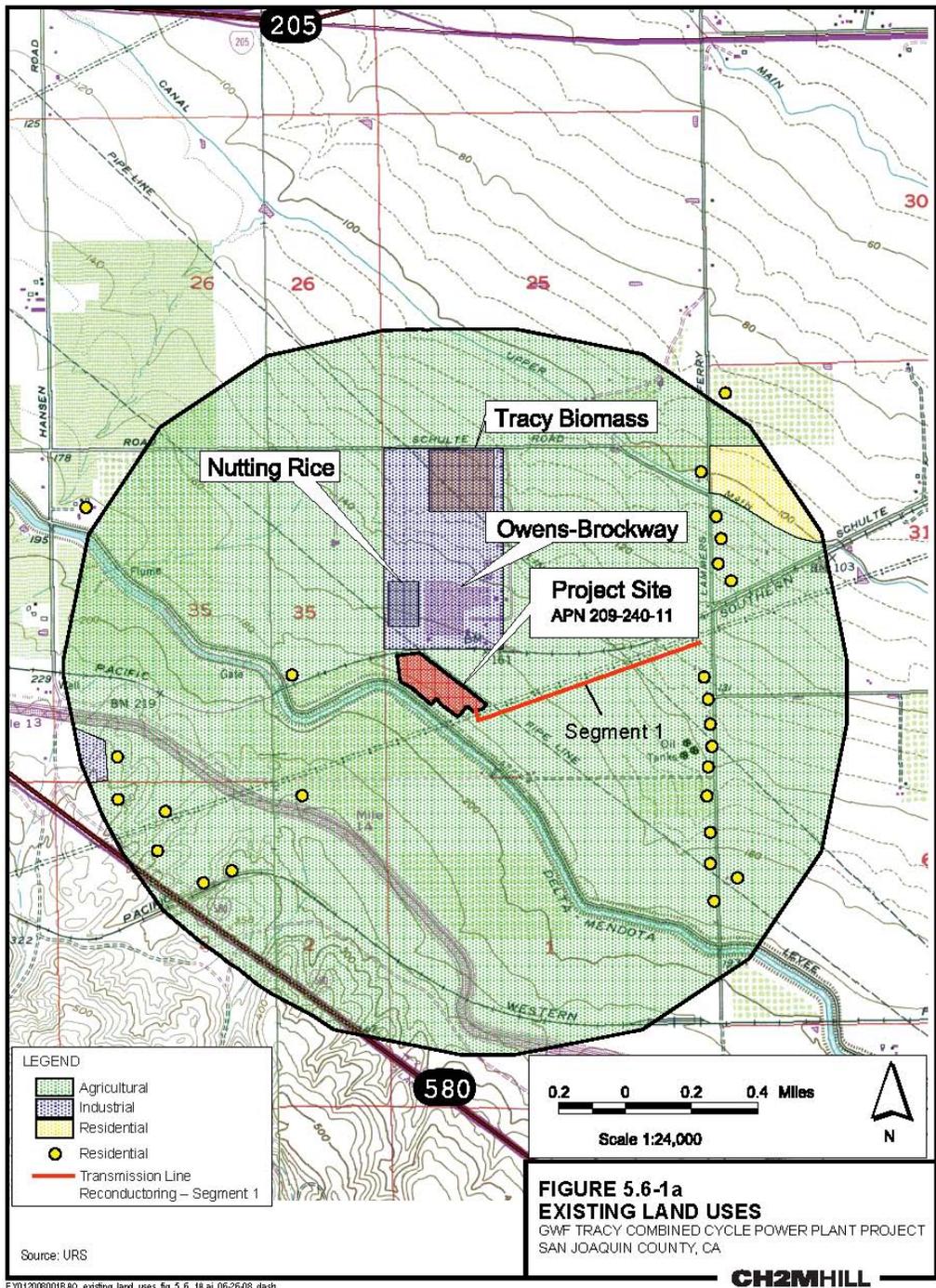
LAND-1 The project owner shall mitigate for the loss of 3.28 acres of Prime Farmland, as defined by the California Agricultural Land Evaluation and Site Assessment (LESA) Model, at a one-to-one (1:1) ratio. Mitigation for the conversion of 3.28 acres of Prime Farmland due to development of the GWF Tracy Project is *in addition* to mitigation for the 13.1 acres of Prime Farmland converted by the existing Tracy Peaker Project (TPP) as described in TPP Condition of Certification LAND-2. The project owner shall continue to implement the TPP's agricultural mitigation plan for long-term maintenance of Prime Farmland on the adjacent agricultural lands within the 40-acre parcel (APN 799-000-45) owned by GWF Tracy LLC.

Verification: At least 120 days prior to the start of construction, the project owner shall pay a mitigation fee to an agricultural land trust such as the American Farmland Trust or other land trust that has been previously approved by the Compliance Project Manager (CPM). The amount of the mitigation fee shall be determined by an independent appraisal conducted on available, comparable farmland property on behalf of the agricultural land trust. The project owner shall pay all costs associated with the appraisal.

The mitigation fee shall be used by the trust to purchase agricultural land and/or easements that will be farmed in perpetuity in San Joaquin County. If no available farmland and/or easements can be purchased in San Joaquin County, then the purchase of farmland/easements in neighboring Central Valley counties is acceptable.

The project owner shall provide written proof to the CPM that the mitigation fee has been paid to the land trust on time and that the compensatory 3.28 acres of farmland and/or easements have been purchased within three years of the start of operation. The project owner shall provide updates to the CPM in the Annual Compliance Report on the status of farmland/easement purchase(s) and the continued implementation of the TPP's agricultural mitigation plan.

LAND USE FIGURE 5.6-1a



Source: Ex. 1.

Land Use Table 2
Project Compliance with Adopted Land Use LORS

Applicable LORS	Description of Applicable LORS	Consistent?	Basis for Consistency
Federal	None		
State			
Subdivision Map Act (Public Resources Code Section 66410-66499.58)	Provides procedures and requirements regulating land division (subdivisions) and parcel legality. Regulation and control of the design and improvement of subdivisions have been vested in the legislative bodies of local agencies.	Yes	As described in the 2001 FSA, GWF's parcel was created by means of a lot line adjustment and per TPP Condition of Certification LAND-1, GWF provided the Energy Commission with a copy of the recorded Certificate of Compliance, ensuring that the proposed site was legally subdivided. GWF Tracy is located on the same 40-acre legal parcel of land created by means of a lot line adjustment for the existing TPP. Therefore, the site is in compliance with the State Subdivision Map Act, because no additional lot line adjustment would be necessary for the proposed project.
Local			
San Joaquin County General Plan (SJC 1995a) Goals	<u>Land Use Goal</u> Provide a well-organized and orderly development pattern that seeks to concentrate urban development and protect the County's agricultural and natural resources	Yes (With Implementation of Condition of Certification LAND-1)	The loss of 3.28 acres of agricultural land as a result of the project's construction would not meet the county's goal of protecting county agricultural resources. Condition of Certification LAND-1 would include payment of a mitigation fee for the conversion of agricultural land to the American Farmland Trust, which, with the continued compliance with the preservation of on-site agricultural land per GWF's existing agricultural mitigation plan, would mitigate the loss of agricultural land resulting from the proposed project. With implementation of LAND-1 , the proposed project would be consistent with this general plan Land Use Goal.
<u>Community Organization and Development Pattern Policies (CODPP)</u>	The Community Organization and Development Pattern Policies contain provisions that relate to the physical development of the County, establishing its development and image. These policies provide a framework for ensuring the logical organization of residential, commercial, industrial, and public facilities and services. The following policies are	Yes	GWF Tracy would be an expansion of the existing TPP and would be located adjacent to the industrial compound containing Owens-Brockway Glass Container, Inc., Nutting-Rice Tracy LLC, and Tracy Biomass Power Plant. The GWF Tracy site is located on agricultural land and would be considered industrial development. However, the project would be sited in an area with similar character and compatible industrial land uses, allowing it to complement and blend in with its surrounding uses. Reconductoring of transmission line Segments 2 and 3 would

Applicable LORS	Description of Applicable LORS	Consistent?	Basis for Consistency
	<p>specifically applicable to the proposed project:</p> <ul style="list-style-type: none"> • <u>Policy 7</u> Residential, commercial, and industrial development shall be shown on the general plan map only in communities identified in Figure IV-1, 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. • <u>Policy 10</u> Development shall be compatible with adjacent uses. • <u>Policy 11</u> Development should complement and blend in with its setting. • <u>Policy 25</u> Existing infrastructure should be maintained and upgraded when feasible, to reduce the need for new facilities. 		<p>occur on an existing transmission line within an existing ROW and would not change the existing character of the transmission corridor. GWF Tracy would be a contiguous expansion of the existing TPP, falling within the exception described in Policy 7, subsection (a). The proposed project and reconductoring of the transmission lines would be upgrades of existing facilities and would not create non-contiguous expansion. Consequently, the proposed project would be consistent with Policies 7, 10, 11, and 25.</p>
<p><u>Infrastructure Services Policies</u></p> <p>Utilities</p>	<p><u>Policy 4</u> The County shall encourage the use of existing transmission corridors for new lines, except in the case of electrical transmission lines over 500 kV, which for safety reasons shall be separated from existing corridors by at least 500 yards.</p>	<p>Yes</p>	<p>GWF Tracy would use existing transmission corridors, and existing transmission line structures for Segments 2 and 3. The lines on these towers would be reconducted, but would not require any other construction or modification to the existing transmission corridor. The two new transmission termination structures adjacent to the GWF Tracy site would be constructed in an existing transmission corridor. Because of these factors, the proposed project would be consistent with Policy 4.</p>
	<p><u>Policy 6</u> The County shall encourage utilities to route their facilities along property lines</p>	<p>Yes (With Implementatio</p>	<p>With the exception of the two new transmission termination structures adjacent to the GWF Tracy site, transmission facilities associated with the project would require minimal ground</p>

Applicable LORS	Description of Applicable LORS	Consistent?	Basis for Consistency
	and where they will not interfere with agricultural operations or other land use activities.	n of Condition of Certification LAND-1)	disturbance. Reconductoring activities for Segments 2 and 3 would not interfere with any agricultural operations or other land use activities. The new transmission termination structures at the GWF Tracy site would permanently convert 3.28 acres of agricultural land. Implementation of Condition of Certification LAND-1 would require on-site preservation of agricultural land on the property not used for the power generation facility and payment of a mitigation fee for the conversion of agricultural land to the American Farmland Trust, and would mitigate for the permanent loss of agricultural land. Condition of Certification LAND-1 would mitigate for the loss of agricultural land and the proposed project would be consistent with Policy 6.
<u>Agricultural Lands Policies</u> Preservation of Agricultural Lands/Compatible Uses	<u>Policy 5</u> 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 areas; 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.	Yes	Similar to what was described in the 2001 TPP FSA, the project would comply with the stipulations of the Agricultural Lands Policy 5 because even though the proposed use is non-agricultural, GWF Tracy would need to locate on the existing agricultural site to make use of the resources the site provides (the electrical transmission and natural gas linear facilities and the water supply). The project site has also been designed to consolidate non-agricultural uses on the land to prevent disruption of the continued agricultural use on the remaining non-converted land. Additionally, implementation of Condition of Certification LAND-1 mitigates the permanent loss of agricultural land. For a discussion of impacts to transportation facilities and air quality as they relate to Agricultural Land Policy 5(d), please see the AIR QUALITY and TRANSPORTATION AND TRAFFIC sections. Reconductoring of Segments 2 and 3 would be an upgrade of an existing use and any disruption of agricultural activities would be minimal and temporary in nature. Consequently, reconductoring activities would be compatible with agricultural operations and would meet the listed criteria.

Applicable LORS	Description of Applicable LORS	Consistent?	Basis for Consistency
	<p>Policy 7 There shall be no further fragmentation of land designated for agricultural use, except in the following cases:</p> <p>A. Parcels for homesites may be created, provided that the general plan density is not exceeded.</p> <p>B. A parcel may be created for the purpose of separating existing dwellings on a lot, provided the Development Title regulations are met.</p> <p>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.</p>	<p>Yes (With Implementation of Condition of Certification LAND-1)</p>	<p>As described above for the General Plan Land Use Goal, the loss of 3.28 acres of agricultural land would be considered “further fragmentation of agricultural land.” GWF has committed to the continued preservation of on-site agricultural land on the property not used for the power generation facility in TPP Condition of Certification LAND-2. The continued preservation of on-site agricultural land combined with the implementation of Condition of Certification LAND-1, to provide payment of a mitigation fee for the conversion of agricultural land to the American Farmland Trust, would mitigate the fragmentation of agricultural land and bring the project into compliance with Agricultural Lands Policy 7.</p> <p>While the existing transmission line ROW fragments the agricultural lands traversed by transmission line Segments 2 and 3, reconductoring of Segments 2 and 3 would be an upgrade of an existing use and would not further fragment any agricultural land. Reconductoring activities would result in minimal disturbance to agricultural land, would last only for the duration of construction, and the land would be returned to its original condition, post-construction. Consequently, reconductoring would not conflict with Agricultural Lands Policy 7.</p>

Applicable LORS	Description of Applicable LORS	Consistent?	Basis for Consistency
	<p>Policy 8 To protect agricultural land, non-agricultural uses which are allowed in the agricultural areas should be clustered, and strip or scattered development should be prohibited.</p>	Yes	<p>The clustering of industrial uses (i.e. the existing TPP is adjacent to Owens-Brockway Glass Container, Inc., Nutting-Rice Tracy LLC, and Tracy Biomass Power Plant) complies with Agricultural Lands Policy 8, which restricts non-farm uses on agricultural lands to concentrated clusters. GWF Tracy is consistent with Agricultural Lands Policy 8 because expanding the TPP would continue the established pattern of clustering industrial uses on this parcel.</p> <p>Reconductoring of Segments 2 and 3 would not permanently change any agricultural land uses. Any effects on agricultural land would occur only during construction activities and any disturbed lands would be returned to their original condition upon completion of construction.</p>
<p>San Joaquin County Development Title <u>Division 6:</u> <u>Agricultural Zones</u> (SJC1995c)</p>	<p><u>Chapter 9-605.5 - Temporary Uses and Structures</u> Table 9-605.4 lists Temporary Building Incidental to Construction Works as a permitted use for all Agricultural zones.</p>	Yes	<p>Construction of the proposed project components at the power generation facility site would require a 12.3-acre laydown area within the 40-acre property owned by GWF zoned AG-40. Construction activities at the laydown area would last only for the duration of construction before the land would be returned to its original condition. Consequently, staff believes temporary use of the laydown area would be incidental to construction of the proposed project and under Table 9-605.4 would be a permitted use.</p>

Applicable LORS	Description of Applicable LORS	Consistent?	Basis for Consistency
	<p>Chapter 9-6065.6 –Special Use Regulations Power Generating Facility A permit approval shall be subject to the following findings:</p> <ol style="list-style-type: none"> 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. 	<p>Yes (With Implementation of Condition of Certification LAND-1)</p>	<p>The San Joaquin County Planning Department, in a September 18, 2001 record of findings on the compatibility of the TPP with the agricultural zoning of the parcel stated, “The sub findings under Section 9-605.6(d) can be made. Specifically, item (1) is satisfied as the area is designated as agricultural in the general plan. The source of power (the TPP) requires locating in this area designated as Agriculture, since the TPP requires access to natural gas, electric transmission interconnection, and water. The proximity of the infrastructure bringing natural gas, electrical interconnection and water to this site results in less expense, less environmental impacts, and less impacts to agriculture than another site.</p> <p>Item (2) is satisfied since only nine acres are to be disturbed and the immediate area contains existing industrial uses such as the Tracy Biomass Plant, the Owens-Brockway Glass Container Manufacturing Plant, and the Nutting-Rice Warehouse. Finally, the 169 MW produced by this power plant would benefit agriculture in the vicinity significantly more than any possible adverse impacts from the loss of nine acres” (SJC 2001).</p> <p>Because this finding was made for the TPP and the proposed project is an expansion of the TPP and would result in the conversion of fewer acres of Farmland than the TPP, staff believes that similar conclusions can be made about GWF Tracy. Staff addressed this issue in its November 5, 2008 letter to the San Joaquin County Community Development Department and requested the county’s input. Because the county has not responded to the contrary on this issue, staff anticipates the county would find GWF Tracy a compatible use. Staff believes that with the preservation of on-site agricultural land under GWF’s existing agricultural mitigation plan and implementation of Condition of Certification LAND-1, any significant impacts to farmland would be mitigated.</p>

B. TRAFFIC AND TRANSPORTATION

This section addresses the extent to which the proposed project will affect the local area's transportation network. The evidence of record includes an analysis of: (1) the roads and routings that are proposed to be used for construction and operation; (2) potential traffic-related problems associated with the use of those routes; (3) the anticipated encroachment upon public rights-of-way during the construction of the proposed project and associated facilities; (4) the frequency of trips and probable routes associated with the delivery of hazardous materials; and (5) the possible effect of project operations on local airport flight traffic. (Exs. 17, 58, 81; 200.)

The evidence presented on this topic was undisputed.

SUMMARY AND DISCUSSION OF THE EVIDENCE

1. Project Site and Vicinity

GWF Tracy is located within the existing Tracy Peaker Plant (TPP) site. The site 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.

Plant construction and operation traffic will use the existing area roadways. Regional access to the site is provided by Interstate 5 (I-5), Interstate 580 (I-580), Interstate 205 (I-205), and West Schulte Road. (Exs. 17, pp. 5.12-7 to 5.12-8; 200, p. 4.10-3 to 4.10-4.) The GWF Tracy site is accessed via an existing paved service road directed southward from West Schulte Road. (Ex. 200, p. 4.10-3.)

GWF Tracy is approximately 2.5 miles northwest of the Tracy Municipal Airport, which is a general aviation airport with two runways. (Ex. 200, p. 4.10-9.)

2. Roadway and Intersection Current Levels of Service

The study area roadways and intersections were analyzed to determine their operating conditions such as traffic volumes, turning movement counts, existing number of lanes at each intersection, volume/capacity ratios, and levels of service (LOS). (Exs. 17, p. 5.12-9 to 5.12-12; 200, pp. 4.10-4 to 4.10-7, 4.10-10 to 4.10-14.)

LOS is a qualitative measure that describes and quantifies the congestion level on a particular roadway or intersection and generally describes these conditions in terms of such factors as speed. For the GWF project study, LOS C during off-peak hours (delays of 20 to 35 seconds) is considered to be the limit of acceptable delay. (Ex. 200, p. 4.10-5.) LOS F is unacceptable and represents the worst condition of overcapacity operation. (Exs. 17, p. 5.12-9; 200, p. 4.10-5.)

Under pre-construction conditions, half of eight study area roadway segments operate at LOS C or better during the morning and evening peaks. Two eastbound segments along I-205 operate at LOS F during the evening peak and two westbound segments along I-205 operate at LOS F during the morning peak. (Exs. 17, p. 5.12-11; 200, p. 4.10-6 to 4.10-7.) Of the seven study area intersections, four operate at LOS C or better during the morning and evening peaks. However, West Schulte/Lammers Road intersection operates at LOS F during both peak periods, the I-580 southbound ramps/Patterson Pass Road-Mountain House intersection operates at LOS E during the evening peak, and the I-205 eastbound ramps/Mountain House Parkway operates at LOS E during the evening peak. (Exs. 17, pp. 5.12-11 to 5.12-12; 200, pp. 4.10-7 to 4.10-8.)

3. Construction Impacts and Mitigation

Construction is expected to take 22 months. (Ex. 200, p. 4.10-10.) The traffic analysis assumes the following construction traffic distribution:

- 50 percent of the construction traffic originates from the San Francisco Bay Area; of these vehicles, half will use the Patterson Pass interchange on I-580 and the other half will use the Mountain House Parkway interchange on I-205.
- 25 percent of the construction traffic originates from the Stockton and Sacramento areas, using the Mountain House Parkway interchange on I-205.
- 25 percent of the construction traffic originates from Modesto/Stanslaus County and Merced County, using the Corral Hollow interchange on I-580. (Ex. 17, p. 5.12-17.)

The average number of construction workers will be approximately 171, while the peak workforce will consist of approximately 398 workers during construction month 17. (Exs. 17, p. 5.12-17; 200, p.4.10-10.) During construction, 12.3 acres of the overall 40-acre project site will be designated for construction laydown and parking. (Exs. 2, p. 2.1-1, 17, pp. 5.12-16 to 5.12-7; 200, p. 4.10-16.) No off-site

construction worker parking is anticipated for the construction of GWF Tracy. (Exs. 17, p. 5.12-16; 200, p. 4.10-16.)

The impacts analyses of construction vehicle trips on current LOS for study area roadways show that all but one of the eight study area roadways will continue to operate at the same LOS as during pre-construction conditions. (Exs. 17, p. 5.12-19; 200, p. 4.10-11.) With the addition of the project's peak construction traffic, the I-205 westbound segment (San Joaquin/Alameda County Line to Mountain House Parkway) will change from LOS A to LOS B during the evening peak period. (Ex. 200, p. 4.10-12.) LOS B is an acceptable condition, representing stable operation with minimal delays. (Ex. 200, p. 4.10-4.)

Four of the studied roadway segments currently operate at LOS F and will continue to do so during GWF construction activities. (Ex. 17, pp. 5.12-18 to 5.12-19.)

Similarly, most of the area intersections will continue to operate at their current LOS even with the addition of GWF Tracy's peak construction traffic. (Exs. 17, pp. 5.12-18 to 5.12-20; 200, pp. 4.10-12 to 4.10-13.) However, LOS at the three intersections below will be temporarily reduced by construction:

- I-580 eastbound ramps/Corral Hollow Road intersection is projected to change from existing LOS C to LOS E during the evening peak period.
- I-580 southbound ramps/Patterson Pass Road-Mountain House Parkway is projected to change from existing LOS E to LOS F during the evening peak period.
- I-205 eastbound ramps/Mountain House Parkway intersection is projected to change from existing LOS E to LOS F during the evening peak period. (Exs. 17, p. 5.12-20; 200, p. 4.10-12.)

In addition to direct construction-related trips, interconnecting GWF Tracy into the Pacific Gas and Electric system will require the reconductoring of several segments of transmission line. Intersections and roadway segments along the transmission line routes might be affected during construction, but traffic impacts will be site-specific and temporary. (Ex. 17, p. 5.12-20.) Implementation of Condition of Certification **TRANS-1** will reduce the temporary impact of decreased LOS at these three intersections to less than significant and will minimize disruptions to street segments and intersections during reconductoring activities. **TRANS-1** requires the project owner to prepare and submit a Construction Traffic Control Plan to the Compliance Project Manager before construction begins.

Deliveries of hazardous materials during construction will be conducted in accordance with federal and state laws. (Ex. 17, pp. 5.12-21 to 5.12-22.) The route previously approved by Caltrans for delivery of hazardous materials to the TPP site is likely to apply to GWF Tracy. (Ex. 17, p. 5.12-22.)

4. Operation Impacts and Mitigation

GWF Tracy operations would require an average of 11 delivery trucks per month. (Exs. 17, p. 5.12-16; 200, p. 4.10-14.) Because operations-related traffic associated with the project will be minimal and insignificant, this traffic is not likely to have any impact on study area roadways and intersections. (Exs. 17, p. 5.12-23; 200, p. 4.10-14.)

5. San Joaquin Council of Governments Regional Congestion Management Program – Impacts

The San Joaquin Council of Government is responsible for preparing, adopting, and regularly updating the Congestion Management Program (CMP) for the San Joaquin County region. (Ex. 200, p. 4.10-14.) Although the CMP identifies I-5, I-205, and I-580 as roadways whose performance is to be monitored, the Applicant's and Staff's analyses show that no impacts would occur to these roadways as a result of GWF Tracy's construction or operation activities. (Ex. 200, p. 4.10-14.)

6. Tracy Municipal Airport – Impacts and Mitigation

The Tracy Municipal Airport is a general aviation airport owned by the City of Tracy. It is an alternative to the Stockton Metropolitan Airport for business-related aviation and serves agricultural and other general aviation activities. (Exs. 17, p. 5.12-15; 200, p. 4.10-9.)

Staff analyzed potential turbulence-related impacts that might arise from the merged air-cooled condenser exhaust with the two gas turbine exhausts on low flying aircraft. (Ex. 200, pp. 4.10-14 to 4.10-16.) Implementation of Condition of Certification **TRANS-2** will require the project owner – before start-up and testing activities begin – to work with the Federal Aviation Authority (FAA) to notify pilots using the Tracy Municipal Airport and airspace above GWF Tracy of potential air hazards. The project owner must also work with the FAA and Tracy Municipal

Airport to modify the Automatic Weather Observation System to include a recommendation that pilots avoid direct flight over GWF Tracy.

With respect to FAA obstruction standards, the FAA issued a Determination of No Hazard to Navigable Airspace, which concluded that the GWF Tracy project does not exceed obstruction standards and would not be a hazard to air navigation. (Exs. 58, pp. 18-19; 66; 200, p. 4.10-16.) As a result, the project is not required to implement marking and lighting for aviation safety. (Ex. 200, p. 4.10-16.)

7. Alternative Transportation – Impacts and Mitigation

No local bus stops are in the proximity of the GWF Tracy site. (Ex. 200, p. 4.10-16.) Nor are there existing or planned bicycle path facilities in the vicinity of the GWF Tracy site. (Ex. 200, p. 4.10-16.) Therefore, no impacts will occur to alternative transportation facilities or their use during construction or operation of GWF Tracy. (Ex. 200, p. 4.1-016.)

8. Cumulative Impacts

A project may result in significant adverse cumulative impacts where its effects are cumulatively considerable. “Cumulatively considerable” means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effect of probable future projects. (Cal. Code Regs., tit. 14, §§ 15130, 15065.)

The evidence of record contains a discussion of proposed projects near GWF Tracy, including the following four proposed projects within 1.5 miles of the project site:

- Ellis Specific Plan: A residential project consisting of approximately 2,500 units.
- Tracy Hills Project: A 6,175-acre mixed-use development consisting of residential, commercial, office, and industrial uses.
- Cordes Ranch Specific Plan: A 1,730-acre project including office and industrial uses.
- Gateway Business Park: A 538-acre business park. (Exs. 17, p. 5.12-13; 200, p. 4.1-017.)

These and other approved and pending projects in the Tracy and San Joaquin County areas will result in an increase in traffic to GWF Tracy, primarily in the form of construction-related traffic. (Ex. 200, p. 4.10-17.) If construction of GWF Tracy and the proposed projects were to occur simultaneously, then cumulative impacts resulting in temporary lane closure and disruption of traffic flows could occur. (Ex. 200, p. 4.10-17.) Post construction, traffic associated with future residential and commercial developments within the area would also contribute to congestion on the affected roadways. Thus, construction-related traffic and activities associated with GWF Tracy could have the potential to combine with these projects and result in cumulative impacts to emergency vehicle access; parking; disruption of public transportation, pedestrian, bicycle, or rail travel; and physical damage to local transportation facilities. (Ex. 200, p. 4.10-17.)

Implementation of Conditions of Certification **TRANS-1**, **TRANS-3**, and **TRANS-4** will ensure that potentially significant temporary impacts resulting from project construction are reduced to less-than-significant levels. (Ex. 200, p. 4.10-17.)

FINDINGS OF FACT

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

1. The additional traffic associated with operation of GWF Tracy will not significantly affect existing levels of service for roads in the project vicinity.
2. Development and implementation of a construction traffic control program will offset any temporary, short-term increases in congestion resulting from construction of the project and its linear facilities.
3. The construction of the project's linear alignments will not significantly affect traffic due to the temporary nature of the construction period and the changing locations for construction activities.
4. Potential adverse impacts associated with the transportation of hazardous materials during construction and operation of the project will be mitigated to insignificance by compliance with applicable federal and state laws.
5. Implementation of the Conditions of Certification below ensures that both construction and operation of the project will comply with all applicable laws, ordinances, regulations, and standards regarding traffic and transportation as identified in the pertinent portion of **Appendix A** of this Decision.
6. Implementation of the Conditions of Certification below ensures that any temporary project impacts on traffic, including plane flights, will be reduced to less than significant.

CONCLUSION OF LAW

1. The Commission, therefore, concludes that construction and operation of the project, as mitigated herein, will not result in any significant, direct, indirect, or cumulative adverse impacts to the local or regional traffic and transportation system.

CONDITIONS OF CERTIFICATION

TRANS-1 The project owner shall consult with the city of Tracy and prepare and submit to the Compliance Project Manager (CPM) for approval a construction traffic control plan and implementation program. The traffic control plan must be prepared in accordance with Caltrans Manual on Uniform Traffic Control Devices and the WATCH Manual and must include but not be limited to the following issues:

- timing of heavy equipment and building materials deliveries
- redirecting construction traffic with a flag person
- signing, lighting, and traffic control device placement if required
- need for construction work hours and arrival/departure times outside peak traffic periods
- ensurance of access for emergency vehicles to the project site
- temporary closure of travel lanes or disruptions to street segments and intersections during reconductoring activities or any other utility tie ins
- access to residential and/or commercial property located near reconductoring routes or any other utility tie ins
- specification of construction-related haul routes, including the minimization of construction traffic using the I-580 eastbound ramps/Corral Hollow Road, I-580 southbound ramps/Patterson Pass Road, and the I-205 eastbound ramps/ Mountain House Parkway intersections during the P.M. peak hour and avoiding residential neighborhoods to the maximum extent feasible
- identification of safety procedures for exiting and entering the site access gate
- crossing safety for all phases of project construction to address foot traffic as well as construction-related vehicle crossing and the transport of heavy/oversize loads over the adjacent rail crossing

Verification: At least 30 days prior to site mobilization, the Applicant or contractor shall provide to the CPM a copy of the referenced documents.

TRANS-2 The project owner shall ensure that all GWF Tracy Project components over 132-feet in height (meeting FAA Form 7460-1 criteria) shall have lighting and marking required by the FAA so not to create a hazard to air navigation.

Verification: At least 30 days prior to the start of construction, the project owner shall provide pictures of any GWF Tracy project components over 132-feet in height after the FAA required lighting and marking have been completed.

TRANS-3 Prior to start-up and testing activities of the plant and all related facilities, the project owner shall work with the FAA to notify all pilots using the Tracy Municipal Airport and airspace above GWF Tracy of potential air hazards. These activities would include, but not be limited to, the Applicant's working with the FAA in issuing a notice to airmen (NOTAM) of the identified air hazard and updating the Terminal Area Chart and all other FAA-approved airspace charts used by pilots that include GWF Tracy site to indicate that pilots should avoid direct overflight. The Applicant shall work with TCY to modify the Airport Facility Directory (AFD) to show the location of the GWF site on a map or figure and put in a remark about thermal plumes could cause moderate to severe turbulence, and therefore, pilots should avoid direct overflight. The Applicant shall also work with the FAA and/or TCY to add a caution to the Automatic Weather Observation System (AWOS) recommending that pilots should avoid direct overflight of the airspace above GWF Tracy site.

Verification: At least 60 days prior to start of project operation, the project owner shall submit to the CPM for review and approval a letter from the FAA and TCY showing compliance with these measures.

TRANS-4 Following completion of project construction, the project owner shall repair any damage to roadways affected by construction activity along with the primary roadways identified in the traffic control plan for construction traffic to the road's pre-project construction condition. Prior to the start of construction, the project owner shall photograph, videotape, or digitally record images of the roadways that will be affected by pipeline construction and heavy construction traffic. The project owner shall provide the CPM and the City of Tracy with a copy of the images for the roadway segments under its jurisdiction. Also prior to start of construction, the project owner shall notify the City about the schedule for project construction. The purpose of this notification is to postpone any planned roadway resurfacing and/or improvement projects until after the project construction has taken place and to coordinate construction-related activities associated with other projects.

Verification: Within 30 days after completion of the redevelopment project, the project owner shall meet with the CPM and the City of Tracy to determine and receive approval for the actions necessary and schedule to complete the repair of identified sections of public roadways to original or as near-original condition as possible. Following completion of any regional road improvements, the project owner shall provide to the CPM a letter from the City of Tracy if work occurred within its jurisdictional public right-of-way stating its satisfaction with the road improvements.

TRANS-5 The project owner shall comply with Caltrans, San Joaquin County, City of Tracy and other relevant jurisdictions limitations on vehicle sizes, weights, and travel routes. In addition, the project owner shall obtain all necessary transportation permits from Caltrans, San Joaquin County, and the city of Tracy for roadway use.

Verification: In the Monthly Compliance Reports, the project owner shall submit copies of any permits received during that reporting period. In addition, the project owner shall retain copies of these permits and supporting documentation in its compliance file for at least six months after the start of commercial operation.

C. SOCIOECONOMICS

This topic reviews pertinent demographic information concerning population centers near the project site and evaluates the potential impacts of project-related population changes on housing, local schools, medical and fire protection services, public utilities, and other public services, as well as the fiscal and physical capacities of local government to meet those needs. The public benefits of the project are also reviewed, including the fiscal effects on local finances from property and sales taxes and school impact fees. In addition, an environmental justice screening analysis is performed to determine whether the project will result in disproportionate impacts on low income and/or minority populations.

The evidence for this topic was uncontested. (Exs. 15; 49; 50; 78; 200, p. 4.8 et seq.; 11/30/09 RT 7-9.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

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. (Ex. 200, pp. 4.8-7 to 4.8-8.)

The study area for the GWF Tracy Project includes communities in San Joaquin County that would most likely be affected by an influx of workers, such as the Cities of Stockton, Tracy, Manteca, Lodi, Lathrop, Ripon, and Escalon. (Ex. 200, p. 4.8-2; Ex. 15, § 5.10.3.1.)

1. Potential Impacts

The construction period will take about 22 months with an estimated peak workforce of 398 workers in the 17th month of construction and an overall average workforce of about 171 workers per month, including skilled workers and contractor staff. (Ex. 200, p. 4.8-7; Ex. 15, § 5.10.4.3, **TABLE-5.10-9**.)

The available skilled labor in San Joaquin County was estimated at more than 16,000 workers in 2006, and evidence indicates that the workforce is increasing. (Ex. 15, § 5.10.4.3.1, Table 5.10-11.) Staff's **Socioeconomics Table-5**, below, shows that the large local workforce is sufficiently skilled and diverse to meet project construction needs.

Socioeconomics Table 5
Total Labor by Skill in Stockton MSA (San Joaquin County)
and GWF Tracy Required Construction by Craft

<i>Trade</i>	<i>Stockton MSA 2006</i>	<i>Stockton MSA 2016</i>	<i>Total # of Workers for Project Construction by Craft</i>
Boilermaker	13,010 ¹	13,540 ¹	60
Carpenter/Indirect craft	2,080	2,140	62
Cement Masons	550	580	4
Electricians	1,260	1,290	72
Ironworkers	340	350	56
Laborers	2,920	3,230	24
Millwrights	80	80	36
Operators	57	600	18
Painters	810	840	6
Pipefitter	950	980	70
Contractor Staff	13,010 ¹	13,540 ¹	NA

Source: Ex. 200, p. 4.8-5.

¹ These numbers overstate the actual number of both contractor staff and boilermakers, but were the only numbers available, as both the “Contractor Staff” and “Boilermaker” categories were not broken out for the EDD Stockton MSA labor force projections Construction and Extractions Occupation data sets.

According to Staff, workers will typically commute daily from their homes within a two-hour commuting distance. Applicant and Staff assumed that at least 60 percent or a maximum of 239 workers of the peak workforce would be drawn from the labor pool residing within a two-hour commute in San Joaquin County and nearby Bay Area counties. The parties further assumed that the remaining 40 percent of the peak workforce, approximately 159 workers, with commute times longer than two hours would likely relocate to the GWF Tracy area on a temporary basis during construction. (Ex. 200, pp. 4.8-8 to 4.8-9; Ex. 15, § 5.10.4.3.2.)

As shown in Staff’s **Socioeconomics Table-2**, below, the temporary relocation of 159 construction workers to the project area represents an increase of less than 1 percent to the population in the City of Tracy and represents an approximate increase of 0.2 percent in the county population. Therefore, the influx of temporary construction workers to the GWF Tracy project will not result

in significant impacts to existing population levels or employment distribution within the study area. (Ex. 200, p. 4.8-9.)

Socioeconomics Table 2
Population Profile of the Study Area, Year 1990–2030

<i>Area</i>	<i>Year</i>					
	<i>1990 Population</i>	<i>2000 Population</i>	<i>2008 Population</i>	<i>2010 Projected Population</i>	<i>2020 Projected Population</i>	<i>2030 Projected Population</i>
City of Tracy	33,558	56,929	81,548	NA	NA	NA
San Joaquin County	480,628	563,598	685,660	741,147	965,094	1,205,198
California	29,758,213	33,873,086	38,049,462	39,135,676	44,135,923	49,240,891

Source: Ex. 200, p. 4.8-2.
NA = Not Available

The workers who temporarily relocate to the project area may stay in local hotels, motels, mobile homes, or other rental properties on a weekly basis and return to their homes on the weekends. According to the evidence, there is an adequate supply of hotels/motels, and rental properties to accommodate weekly commuters and/or temporary residents. (Ex. 200, p. 4.8-9; Ex. 15, § 5.10.4.3.3.)

Applicant expects to hire about 17 permanent, full-time employees for project operation within commuting distance of the project site. A minimal number of employees may relocate to the area and require permanent housing but any resulting effects on housing and public services are considered *de minimis*. (Ex. 200, p. 4.8-9; Ex. 15, § 5.10.4.4.1, **TABLE-5.10-12**.)

We therefore find that impacts on housing and related services will be negligible in relation to the supply of available housing and services available. No replacement of existing residential housing will be necessary because project construction and operation will not increase demand for housing. (Ex. 200, p. 4.8-9; Ex. 15, § 5.10.4.4.1.)

Since project-induced population increases will be minimal, construction and operation of the project will not result in significant adverse impacts on schools, parks and recreation, public utilities, law enforcement, or emergency services in

the local communities. (Ex. 15, § 5.10.4.3.2 et seq., § 5.10.4.4.2 et seq.; Ex. 200, p. 4.8-10 et seq.) Potential impacts on law enforcement and emergency services at the site will be further reduced due to site security measures and medical emergency training of workers. (Ex. 200, p. 4.8-11.) See discussion in the **Workers Safety and Fire Protection** section of this Decision.

Section 17620 of the California Education Code allows school districts to levy school development fees for new commercial or industrial construction within their boundaries. (See also Govt. Code, §§ 65996-65997.)

The GWF Project is located within the Lammersville Elementary School District (LESD) and the Tracy Joint Unified School District (TSD). The local school development fees for the LESD and the TSD are calculated at \$0.28 and \$0.18, respectively, per square footage of the covered and enclosed space of commercial or industrial projects. (Ed. Code, § 17620 (a)(1)(A).) Based on the total area of the project's covered and enclosed structures, the project owner must pay a total of \$2,300 in school impact fees to be divided appropriately between the two school districts. (Ex. 15, §§ 5.10.3, 5.10.4.4.6; Ex. 200, p. 4.8-11.) We have adopted Condition of Certification **SOCIO-1** to ensure that the project owner pays the school impact fees in compliance with applicable LORS.³⁸

2. Section 25523(h) Public Benefit Findings

Public Resources Code section 25523(h) requires discussion of the project's public benefits. The project's fiscal benefits, based on property value, local purchases of equipment, supplies, and associated expenses, include the following estimates (all estimates are in 2007 dollars):

- Proposition 13 property tax revenues of \$2,396,100;
- 22-month construction sales tax revenues of \$271,250 to be divided between the state and local jurisdictions according to applicable law; and
- Annual operation sales tax revenues of \$11,625 to be divided between the state and local jurisdictions according to applicable law. (Ex. 15, § 5.10.4.3.5, 5.10.4.4.5; Ex. 200, pp. 4.8-5, 4.8-10.)

³⁸ Although the Final Staff Assessment did not recommend a Condition of Certification requiring proof of payment, the Commission has consistently adopted such a Condition to ensure compliance with the school impact fee requirement and we find it appropriate in this case.

The project's non-fiscal (private sector) benefits include the following estimates (in 2007 dollars):

- Total GWF Tracy Project capital costs of \$232 million;
- 22-month construction payroll of \$50 million;
- Annual operations payroll of \$2.3 million; and
- Approximately \$3.5 million in local expenditures for construction materials and supplies and \$150,000 for operation and maintenance supplies. (Ex. 15, § 5.10.4.3.4; Ex. 200, pp. 4.8-6, 4.8-10.)

The project will also provide local economic benefits by creating direct, indirect, and induced short-term employment. Applicant used an Impact Analysis for Planning (IMPLAN) input-output model of the study area to estimate the project's multiplier effect associated with construction and operation. The IMPLAN results show that purchases by construction workers and permanent employees as well as operations expenditures will generate quantifiable secondary economic benefits that are likely to occur if the project is developed. (Ex. 15, §§ 5.10.4.3.4, 5.10.4.4.4, 5.10.4.4.5; Ex. 200, p. 4.8-8.)

3. Environmental Justice Screening Analysis

California law defines environmental justice as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." (Govt. Code § 65040.12(e); Pub. Res. Code, § 71116(j).)

Federal Executive Order 12898 (1994), "*Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*," requires state and federal agencies to incorporate environmental justice concerns in their environmental analyses. The USEPA's *Draft Revised Guidance (2000) for Investigating Title VI Administrative Complaints Challenging Permits ("Guidance")* calls for a two-step analysis: (1) does the potentially affected community include minority and/or low-income populations and, if it does, (2) are the environmental impacts likely to fall disproportionately on minority and/or low-income members of the community. (Ex. 49.) See also, *Title VI Public Involvement Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs*, 71 Fed. Reg. 14207 et seq. (March 21, 2006).

According to the USEPA's *Guidance*, an environmental justice population exists if the low-income and/or minority populations of the affected area constitute 50

percent or more of the general population or if the minority population percentage in the area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. (Ex. 49.)

Applicant used a six-mile radius around the project to determine the presence of environmental justice populations because the same distance was used to assess air quality and public health effects. Census 2000 data indicate that minority populations constitute 34 percent of the total population within the six-mile radius but about 20 percent of the Census Block Groups near the site constitute more than 50 percent minority populations. Applicant noted that the Census Block Groups did not identify the presence of low-income populations at the 50 percent threshold. (Ex. 49.)

Since the census data identified minority population densities near the site, Applicant conducted a screening analysis to determine whether environmental justice concerns were present in this case. (Ex. 49.) According to Applicant, however, since the mitigated project will not result in high and adverse impacts to any population, there will not be any disproportionate impacts on environmental justice populations.³⁹ (*Id.*) Staff's analysis reflects the same conclusion. (Ex. 200, pp. 4.8-3, 4.8-13.)

4. Cumulative Impacts

Cumulative socioeconomic impacts may occur when overlapping construction schedules for several projects in the same vicinity create a demand for workers that cannot be met by the local labor force, resulting in an influx of non-local workers and their dependents. (Ex. 200, p. 4.8-12.)

There are at least 10 new foreseeable projects within a five-mile radius of the GWF Tracy site. However, despite the potential for construction schedule overlaps, there is no evidence the GWF Tracy's demand for workers will result in adverse cumulative socioeconomic effects because a large, skilled workforce in

³⁹ The evidentiary record indicates that the fully mitigated project will not result in any significant adverse environmental or public health impacts to any population, regarding the following technical topics: **Air Quality, Hazardous Materials Management, Land Use, Noise, Public Health, Socioeconomics, Soils and Water Resources, Traffic and Transportation, Transmission Line Safety and Nuisance, Visual Resources, and Waste Management.** The analyses for each topic were based on well-established scientific protocols and regulatory standards, which account for sensitive receptors that are presumed to be most susceptible to adverse environmental or public health impacts.

San Joaquin County is available within commuting distance. Further, the economic benefits derived from construction and operation of GWF Tracy will result in cumulative economic benefits when project-induced revenues are combined with the revenues from future development projects. We therefore conclude that GWF Tracy will not contribute to adverse cumulative impacts to the area's population, employment, housing, police, schools, parks, or hospitals. (Ex. 200, p. 4.8-12.)

FINDINGS OF FACT

Based on the uncontroverted evidence of record, we make the following findings:

1. A large skilled labor pool in San Joaquin County and neighboring Bay Area counties is available for construction and operation of the project.
2. The project will not cause an influx of a significant number of construction or operation workers to relocate in the local area.
3. The project will not result in significant adverse effects on local employment, housing, schools, public utilities, parks and recreation, law enforcement, or emergency services.
4. Total capital cost of the project including payroll is estimated at \$232 million (2007 dollars).
5. The project will provide a construction payroll of about \$50 million (2007 dollars) and an annual operations payroll of approximately \$2.3 million (2007 dollars).
6. The project will spend an estimated \$3.5 million (2007 dollars) on local purchases of materials and equipment during the 22-month construction period and generate sales tax revenues of about \$271,250 (2007 dollars).
7. The project will generate Proposition 13 property tax revenues of approximately \$2,396,100.
8. Local expenditures of about \$150,000 (2007 dollars) per year for operation and maintenance supplies will yield an estimated \$11,625 (2007 dollars) per year in sales tax revenues.
9. The project owner will pay a one-time statutory school development fee of \$2,300 to be divided appropriately between the Lammersville Elementary School District and the Tracy Joint Unified School District.

10. The minority population within a six-mile radius of the project site exceeds the 50 percent threshold for a screening level environmental justice analysis.
11. The screening level environmental justice analysis indicates that there will be no disproportionate impacts on low-income and/or minority populations because the mitigated project does not result in any significant health or environmental impacts to any population in the project vicinity.
12. The project will provide direct, indirect and induced economic benefits to San Joaquin County and surrounding communities.
13. Construction and operation of the project will not result in any direct, indirect, or cumulative significant adverse socioeconomic impacts.
14. Implementation of the Condition of Certification, below, and the mitigation measures described in the evidentiary record, ensures that the project will not result in adverse socioeconomic impacts.

CONCLUSIONS OF LAW

1. We therefore conclude that implementation of all Conditions of Certification in this Decision, including the Condition of Certification below, ensures 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**.
2. The evidence of record contains an adequate analysis of socioeconomic effects related to the project and establishes that the project will create no significant adverse socioeconomic effects as defined under the California Environmental Quality Act.
3. The evidence of record contains an adequate analysis of potential socioeconomic effects related to the project pursuant to federal and state guidelines concerning environmental justice and establishes that the project will create no disproportionate adverse effects on minority or low-income populations.

CONDITION OF CERTIFICATION

- SOCIO-1** The project owner shall pay a total of at least \$2,300 in school impact fees to be divided appropriately between the Lammersville Elementary School District and the Tracy Joint Unified School District as required by Education Code Section 17620.

Verification: At least 30 days prior to start of project construction, the project owner shall provide the Compliance Project Manager (CPM) proof of payment of the statutory development fees.

D. NOISE AND VIBRATION

The construction and operation of any power plant will create noise. The character and loudness of this noise, the times of day or night during which it is produced, and the proximity of the project to sensitive receptors combine to determine whether project noise will cause significant adverse impacts. In some cases, vibration may be produced as a result of construction activities such as blasting or pile driving; these activities have the potential to cause structural damage and annoyance. The evidence of record summarized below was uncontested and evaluates whether noise and vibration produced during project construction and operation will be sufficiently mitigated to comply with applicable law and avoid the creation of significant adverse impacts. (11/30/2009 RT 6-9; Exs. 12; 46; 76; 200, § 4.6.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

The project will be constructed on 16.38 acres of land within a 40 acre parcel on which the existing Tracy Peaker Plant is located. Traffic on Interstate 580 (I-580) and established industrial and agricultural activities are the chief contributors to the area's ambient noise. (Ex. 200, p. 4.6-5.)

The San Joaquin County Ordinance Code requires new stationary noise sources to limit noise emissions to: an hourly equivalent sound level (L_{eq}) of 50 decibels (dB) during day-time (7 a.m. to 10 p.m.) or 45 dB during night-time (10 p.m. to 7 a.m.); or a maximum sound level (L_{max}) of 70 dB during the day or 65 dB at night. Construction activities occurring between 6:00 a.m. and 9:00 p.m. are exempted from these limits. (Ex. 200, p. 4.6-3.)

CEQA Guidelines also set forth characteristics of noise impacts that may indicate potentially significant effects from project-related noise, such as "a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project." (Cal. Code Regs., tit. 14, § 15000 et seq., Appen. G, Section XI.) In accordance with this standard, the Commission uses the significance threshold of 5 dBA when project-related noise emissions exceed existing ambient noise levels at the nearest sensitive receptor. We believe that an increase in background noise levels of up to 5 dBA in a residential setting is insignificant and that an increase of more than 10 dBA is clearly significant. An increase of between 5 dBA and 10 dBA may be considered adverse, but could be either significant or insignificant depending upon the particular circumstances of a given case. (Ex. 200, p. 4.6-4.)

Factors to be considered in determining the significance of an adverse impact as characterized above include: (1) the resulting noise level; (2) the duration and frequency of the noise; (3) the number of people affected; and (4) the land use designation of the affected receptor sites. Noise due to construction activities is usually considered insignificant in terms of CEQA compliance if the construction activity is temporary and the use of heavy equipment and noisy activities is limited to day-time hours. (Ex. 200, pp. 4.6-4 to 4.6-5.)

The evidence consists, in part, of a noise survey performed by the Applicant on May 19-21, 2003, with the existing peaker plant operating. (Ex. 200, pp. 4.6-5 to 4.6-6.) The evidence establishes that this 2003 noise survey remains valid since there has been no known change in the project area or the sensitive receptors which would affect the ambient noise level. (Ex. 200, p. 4.6-6.) The nearest sensitive receptors pertinent for present purposes are:

- Measuring Location LT-2 (Lopez residence): A single residence approximately 2,600 feet (one-half mile) west of the center of the site. This represents one of the nearest sensitive receptors most likely to be impacted by project noise. Long-term (46-hour) monitoring showed ambient noise sources were chiefly traffic on I-580 and noise from industrial operations. The existing peaker project was inaudible at this location even though the plant was operating at full output.
- Measuring Location ST-5 (Timmons residence): A single residence approximately 2,600 feet (one-half mile) southwest of the center of the site. This represents the remaining nearest sensitive receptor. Monitoring was conducted for 46 consecutive hours and showed ambient noise sources to be chiefly traffic noise from I-580. The peaker plant was also inaudible at this location. (Ex. 200, p. 4.6-6.)

The existing measured ambient noise levels are shown in **TABLE 1**, below:

**Noise Table 1
Summary of Measured Ambient Noise Levels**

Measurement Location	Measured Noise Levels, dBA		
	L _{eq} – Daytime	L _{eq} – Nighttime	L ₉₀ - Nighttime
LT-2 – Lopez residence, 0.5 mile W	58.2	58.2	45.9
ST-5 – Timmons residence, 0.5 mile SW	46.3	48.8	42.1

Source: Ex. 200, p. 4.6-6.

These measurements show that the ambient noise levels at both locations are relatively high, and that the neighborhood is not a “quiet” one. (Ex. 200, p. 4.6-7.)⁴⁰

The evidence further shows the effects the project’s short-term construction activities and its long-term operation will have upon ambient levels.

1. Construction

Construction noise is a temporary event, in this case expected to last about 22 months. (Ex. 200, p. 4.6-6.) As shown on **TABLE 2**, below, the evidence indicates that the predicted noise levels will increase by approximately 1 dBA during both the day and the night at receptor LT-2, at by 9 dBA during the day and 6 dBA during the night at receptor ST-5 during construction.

**Noise Table 2
Predicted Power Plant Construction Noise Impacts**

Receptor	Average Construction Noise Level (dBA L_{eq})	Measured Existing Ambient (dBA L_{eq})	Cumulative (dBA L_{eq})	Change (dBA)
LT-2 — Nearest residence to W	54	58 daytime	59 daytime	+1 daytime
		58 nighttime	59 nighttime	+1 nighttime
ST-5 — Nearest residence to SW	54	46 daytime	55 daytime	+9 daytime
		49 nighttime	55 nighttime	+6 nighttime

Source: Ex. 200, p. 4.6-7.

The uncontested evidence establishes that the predicted increases in construction noise will be unnoticeable at receptor LT-2. (Ex. 200, p. 4.6-7.) The evidence further establishes that the 9 dBA increase at receptor ST-5 during the day will likely not be annoying and that, given the existing noisy ambient regime

⁴⁰ At the evidentiary hearing, a spokesperson on behalf of the Elissagary/Tuso families expressed concern that the noise level, among other factors, would disrupt their quality of life. (11/30/2009 RT 11-18.) There is, however, no evidence of record which indicates that plant noise will substantially change the existing conditions.

and temporary nature of the construction, the 6 dBA increase at night will also likely not create a significant impact. (Ex. 200, pp. 4.6-7 to 4.6-8.)

High-pressure steam blows are typically the loudest noise encountered during construction. If not silenced, these could create noise levels of roughly 95 dBA at receptors LT-2 and ST-5. With the temporary silencer installed as required by Condition **NOISE-7**, the noise levels will be attenuated to about 55 dBA at these locations. (Ex. 200, pp. 4.6-8 to 4.6-9.) Alternatively, Condition **NOISE-7** allows the project owner to use a low-pressure steam blow which will yield a noise level of about 52 dBA at the receptors. The cumulative noise levels during steam blows will temporarily increase at receptor LT-2 by up to 7 dBA and at receptor ST-5 by up to 10 dBA. According to the weight of the evidence of record, these increases will be “noticeable but likely tolerable.” (Ex. 200, pp. 4.6-9 to 4.6-10.)

Similarly, pile driving, if used, will create noise levels of 69 dBA at receptors LT-2 and ST-5; this is an increase of 11 dBA and 23 dBA, respectively, over existing ambient levels. The evidence shows that these increases, while noticeable, also will be temporary and limited, by Condition **NOISE-6**, to daytime hours. The record also characterizes these impacts as noticeable but “tolerable” to residents. (Ex. 200, pp. 4.6-8 to 4.6-9.)

To ensure construction noise levels will not be disruptive at the nearest residences, we have adopted Conditions of Certification **NOISE-1**, **NOISE-2**, and **NOISE-6**. The first two Conditions establish a notification and complaint process to resolve issues arising from any excessive construction noise; Condition **NOISE-6** limits construction to the hours between 6:00 a.m. and 9:00 p.m. (Ex. 200, p. 4.6-8.)

Next, construction of the linear facilities progresses rapidly, thus not subjecting any one receptor to noise impacts for more than a few days. To protect construction workers from injury due to excessive noise, Condition **NOISE-3** requires the project owner to implement a noise control program consistent with OSHA and Cal/OSHA requirements. (Ex. 200, pp. 4.6-8, 4.6-10.) Finally, there is no indication in the evidence of record that vibration from construction activities will be perceptible at any appreciable distance from the project site, or that it will cause any impact. (*Id.*)

2. Operations

The noise emanating from a power plant is unique. It is generally broadband, steady state in nature. When it is operating, the Tracy Combined Cycle Project will essentially be a continuous noise source. This noise contributes to, and becomes part of, the background noise level when most intermittent noises cease. (Ex. 200, p. 4.6-11.) The primary new noise sources of this project include the heat recovery steam generators and their exhaust stacks, steam turbine, air cooled condenser with cooling fans, electrical transformer, auxiliary boiler, and various pumps and fans. (Ex. 200, p. 4.6-10.)

The evidence identifies various mitigation measures which will be used to reduce operational noise, including balancing the noise emissions of various power plant features during the design stage to avoid creating annoying tonal (pure-tone) noises. Other measures include HRSG stack silencers, steam turbine equipment enclosure, and an air-cooled condenser noise mitigation package consisting of reduced noise motors, gearboxes, and fan blades. (Ex. 200, p. 4.6-11.) The evidence indicates that, as a result of mitigation efforts, the project's operating noise at the nearest sensitive receptors will be about 42 dBA L_{eq} . (*Id.*) This will result in inaudible or barely noticeable changes of 1 dBA and 3 dBA in the respective cumulative ambient background noise levels at receptors LT-2 and ST-5, and be within the levels allowed under the applicable local noise ordinance. (Ex. 200, pp. 4.6-11 to 4.6-12.)

As with construction activities, operational and maintenance activities will meet OSHA and Cal/OSHA standards to protect workers. (Condition of Certification **NOISE-5**.) The evidence also establishes that operational vibration – whether ground borne or air borne – will be undetectable by likely receptors. Finally, the evidence shows there are no other facilities in the vicinity of the project which could create the potential for cumulative impacts. (Ex. 200, p. 4.6-13.)

FINDINGS OF FACT

Based on the evidence of record, the Commission makes the following findings.

1. The nearest sensitive receptors are residences designated as LT-2 and ST-5. The existing locations are relatively noisy areas, which are not considered “quiet.”

2. Operation of the Tracy Combined Cycle Project will not significantly increase noise levels above existing ambient levels at the nearest sensitive receptors.
3. Construction noise levels are temporary and transitory in nature and will be mitigated to the extent feasible by sound reduction devices, limiting construction to day-time hours in accordance with local noise control LORS, and providing a notice and complaint process to the public.
4. High-pressure steam blows or pile driving would result in excessive levels of noise at the nearest sensitive receptors.
5. Mitigation, such as that identified in the evidence of record, and adherence to Condition of Certification **NOISE-7** will assure that noise from steam blow or pile driving activities is reduced to below a level of significance.
6. Project construction will increase both day-time and night-time noise levels by 1 dBA at receptor LT-2, and by 9 dBA during the day and 6 dBA during the night at receptor ST-5. The evidence establishes that these increases will be temporary and not significant.
7. Project operations will increase cumulative night-time ambient noise levels by 1 dBA at receptor LT-2 and by 3 dBA at receptor ST-5. The evidence establishes that these will not be significant increases.
8. The project owner will implement measures to protect workers from injury due to excessive noise levels during both construction and operation.
9. The Tracy Project will not create ground or air borne vibrations which will cause significant off-site impacts.
10. Implementation of the Conditions of Certification, below, ensure that project-related noise emissions will not cause significant adverse impacts to sensitive noise receptors.

CONCLUSIONS OF LAW

1. The Commission concludes that implementation of the following Conditions of Certification ensure that the Tracy Combined Cycle Project will comply with the applicable laws, ordinances, regulations, and standards on noise and vibration as set forth in the pertinent portion of **Appendix A** of this Decision.
2. The project will not cause significant indirect, direct, or cumulative adverse noise impacts.

CONDITIONS OF CERTIFICATION

NOISE-1 At least 15 days prior to the start of ground disturbance, the project owner shall notify all residents within one-half mile of the site and one-quarter mile of the linear facilities, by mail or other effective means, of the commencement of project construction. At the same time, the project owner shall establish a telephone number for use by the public to report any undesirable noise conditions associated with the construction and operation of the project and include that telephone number in the above-mentioned notice. If the telephone is not staffed 24 hours per day, the project owner shall include an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended. This telephone number shall be posted at the project site during construction in a manner visible to passersby. This telephone number shall be maintained until the project has been operational for at least one year.

Verification: Prior to ground disturbance, the project owner shall transmit to the Compliance Project Manager (CPM) a statement, signed by the project owner's project manager, stating that the above-mentioned notification has been performed and describing the method of that notification, verifying that the telephone number has been established and posted at the site, and giving that telephone number.

NOISE COMPLAINT PROCESS

NOISE-2 Throughout the construction and operation of GWF Tracy, 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 a 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;
- Take all feasible measures to reduce the noise at its source if the noise is project related; 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 five days of receiving a noise complaint, the project owner shall file a copy of the Noise Complaint Resolution Form with the CPM documenting the resolution of the complaint. If mitigation is required to resolve a complaint and the complaint is not resolved within a three-day period, the project owner shall submit an updated Noise Complaint Resolution Form when the mitigation is implemented.

NOISE-3 The project owner shall submit to the CPM for review and approval a noise control program and a statement, signed by the project owner's project manager, verifying that the noise control program will be implemented throughout construction of the project. The noise control program shall be used to reduce employee exposure to high noise levels during construction and also to comply with applicable OSHA and Cal/OSHA standards.

Verification: At least 30 days prior to the start of ground disturbance, the project owner shall submit to the CPM the noise control program and the project owner's project manager's signed statement. The project owner shall make the program available to Cal/OSHA upon request.

NOISE RESTRICTIONS

NOISE-4 The project design and implementation shall include appropriate noise mitigation measures adequate to ensure that operation of the project will not cause noise levels due solely to plant operation to exceed an average of 42 dBA L_{eq} measured at monitoring location LT-2, the residence located approximately 2,600 feet west of the project site. No new pure-tone components shall be caused by the project. No single piece of equipment shall be allowed to stand out as a source of noise that draws legitimate complaints.

The measurement of power plant noise for the purposes of demonstrating compliance with this Condition of Certification may alternatively be made at a location, acceptable to the CPM, closer to the plant (e.g., 400 feet from the plant boundary) and this measured level then mathematically extrapolated to determine the plant noise contribution at the affected residence. The character of the plant noise shall be evaluated at the affected residential locations to determine the presence of pure tones or other dominant sources of plant noise.

A. When the project first achieves a sustained output of 85 percent or greater of rated capacity, the project owner shall conduct a community noise survey at monitoring location LT-2 or at closer locations acceptable to the CPM. This survey shall be performed during power plant operation and shall also include measurement of one-third octave band sound pressure levels to determine whether new pure-tone noise components have been caused by the project.

- B. If the results from the noise survey indicate that the power plant average noise level (L_{eq}) at LT-2 exceeds the above value, mitigation measures shall be implemented to reduce noise to a level of compliance with this limit.
- C. If the results from the noise survey indicate that pure tones are present, mitigation measures shall be implemented to eliminate the pure tones.

Verification: The survey shall take place within 30 days of the project's first achieving a sustained output of 85 percent or greater of rated capacity. Within 15 days after completing the survey, the project owner shall submit a summary report of the survey to the CPM. Included in the survey report shall be a description of any additional mitigation measures necessary to achieve compliance with the above-listed noise limit and a schedule, subject to CPM approval, for implementing these measures. When these measures are in place, the project owner shall repeat the noise survey.

Within 15 days of completion of the new survey, the project owner shall submit to the CPM a summary report of the new noise survey, performed as described above and showing compliance with this condition.

NOISE-5 Following the project's first achieving a sustained output of 85 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 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.

CONSTRUCTION TIME RESTRICTIONS

NOISE-6 Heavy equipment operation and noisy construction work relating to any project features shall be restricted to the following times of day:

Any Day	6:00 a.m. to 9:00 p.m.
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Haul trucks and other engine-powered equipment shall be equipped with mufflers that meet all applicable regulations. Haul trucks shall be operated in accordance with posted speed limits. Truck engine exhaust brake use shall be limited to emergencies.

Verification: Prior to ground disturbance, the project owner shall transmit to the CPM a statement acknowledging that the above restrictions will be observed throughout the construction of the project.

STEAM BLOW RESTRICTIONS

NOISE-7 If a high-pressure steam blow is employed, the project owner shall equip steam blow piping with a temporary silencer that quiets the noise of steam blows to no greater than 89 dBA measured at a distance of 50 feet. The project owner shall conduct steam blows only during the hours of 6:00 a.m. to 9:00 p.m.

If a low-pressure continuous steam blow or air blow process is employed, the project owner shall submit a description of this process, with expected noise levels and projected hours of execution, to the CPM who shall review the proposal with the objective of ensuring that the resulting noise levels from the steam or air blows alone will not exceed 52 dBA L_{eq} measured at the residence at LT-2.

Verification: At least 15 days prior to the first steam blow, the project owner shall submit to the CPM drawings or other information describing the temporary steam blow silencer and the noise levels expected, as well as a description of the steam blow schedule.

At least 15 days prior to any low-pressure continuous steam blow, the project owner shall submit to the CPM drawings or other information describing the process, including the noise levels expected and the projected time schedule for execution of the process.

NOISE COMPLAINT RESOLUTION FORM

GWF Tracy Combined Cycle Power Plant (08-AFC-7)		
NOISE COMPLAINT LOG NUMBER _____		
Complainant's name and address: Phone number: _____		
Date complaint received: _____ Time complaint received: _____		
Nature of noise complaint: 		
Definition of problem after investigation by plant personnel: Date complainant first contacted: _____		
Initial noise levels at three feet from noise source _____ dBA	Date:	_____
Initial noise levels at complainant's property: _____ dBA	Date:	_____
Final noise levels at three feet from noise source: _____ dBA	Date:	_____
Final noise levels at complainant's property: _____ dBA	Date:	_____
Description of corrective measures taken: Complainant's signature: _____ Date: _____		
Approximate installed cost of corrective measures: \$ _____ Date installation completed: _____ Date first letter sent to complainant: _____ (copy attached) Date final letter sent to complainant: _____ (copy attached)		
This information is certified to be correct: Plant Manager's Signature: _____		

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

E. 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 evidence of record includes an examination of GWF Tracy's visual impacts in order to determine whether the project has the potential to cause substantial degradation to the existing visual character of the site and its surroundings. (Exs. 18, 52, 83, 200.)

SUMMARY AND DISCUSSION OF THE EVIDENCE

GWF Tracy is located within the existing Tracy Peaker Plant (TPP) site. The addition of GWF Tracy to the TPP results in an addition of approximately four acres to the site.

The site is surrounded by the Delta-Mendota Canal to the southwest, agricultural property to the south and east, and the Union Pacific Railroad to the north. The plant site was once known for its scenic, rural character. (Ex. 200, p. 4.12-6.) Today, however, large industrial facilities are located in the area, including the already existing TPP as well as several warehouses, trucking and distribution facilities, and a manufacturing plant. (Ex. 200, pp. 4.12-3, 4.12-6.) As a result, the area around the plant has, and will continue to have, an industrial character. (Ex. 200, p. 4.12-6.)

The most visible components of GWF Tracy include two new heat recovery system generators (HRSG); two new 150-foot tall, 17-foot diameter exhaust stacks to replace the existing two 100-foot TPP stacks; a 114-foot tall by 234-foot wide air-cooled condenser; and a new 400,000 gallon fire service water storage tank. (Ex. 200, p. 4.12-9.) Other publicly visible components of the project include a new water treatment building and the addition of an onsite switchyard and overhead transmission line from the step-up transformer to the switchyard. (Ex. 200, p. 4.12-9.)

To assess the significance of a visual impact, it is necessary to determine whether the project would:

- have a substantial adverse effect on a scenic vista;
- substantially damage scenic resources including, but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway;

- substantially degrade the existing visual character or quality of the site and its surroundings; or
- create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. [14 Cal. Code Regs, Appendix G.]

Visual resources analyses have an inherently subjective aspect., The evidence describes the methodologies used to evaluate GWF Tracy's visual impacts, including an assessment of compliance with applicable laws, the extent of any alteration to the existing viewshed including blockage of desirable views, creation of a decrease in visual quality, and the introduction of a substantial change to nighttime or daytime lighting levels. (Exs. 18, pp. 5.13-11 to 5.13-12; 52; 200, pp. 4.12-29 to 4.12-35.) The type of visual change, duration of view, viewer sensitivity, and number of viewers are additional elements of the impacts analysis. (Exs. 18, pp. 5.13-11 to 5.13-12; 52; 200, pp. 4.12-29 to 4.12-35.)

The evidence shows that the visual resources analysis considered visual impacts on scenic vistas and scenic resources.

The project analysis defines "scenic vista" as a distant view through and along a corridor or opening that exhibits a high degree of pictorial quality. (Ex. 200, p. 4.12-5.) No scenic vistas exist in the project vicinity or in the three key observation points (KOP) viewsheds jointly selected by the Applicant and Staff. (Exs. 18, p. 5.13-18; 200, p. 4.12-5.)

A scenic resource includes a unique water feature, transitional water, part of a stream, river or estuary, unique physical geological terrain, a tree with unique visual or historical importance, a historic building, a designated federal scenic byway or highway, or a state scenic highway corridor. (Ex. 200, p. 4.12-5.)

Interstate 580 (I-580) is a heavily traveled highway located about one and one-half miles southeast of the site. A segment of I-580 between Interstate 5 and the Alameda County line is a designated scenic highway by San Joaquin County and the State of California for its panoramic agricultural views. (Exs. 18, p. 5.13-4, 200, pp. 4.12-6, 4.12-10.) The addition of GWF Tracy to the area will not significantly impact scenic resources within the I-580 corridor because it is not out of scale with the existing visible industrial facilities, it will not substantially alter the existing industrial character of the area around the project site, and there is significant distance between I-580 and the project site. (Exs. 18, p. 5.13-8; 200, p. 4.12-6.)

The evidence of record includes analyses of the project's construction and operational impacts upon visual character and quality.

1. Construction Impacts and Mitigation

Construction of the plant and facilities will cause temporary visual disturbance of approximately 12.3 acres of the existing TPP site due to the presence of equipment, materials, and excavated piles of dirt. (Exs. 18, pp. 5.13-13 to 5.13-14; 200, p. 4.12-7.) The construction of gas and water lines will also result in temporary onsite visual disruption with low visual impact from each KOP because construction for the pipelines will occur within the project site and be shielded from public view. (Exs. 18, p. 5.13-13; 200, pp. 4.12-7, 4.12-13.)

The visual impact of the transmission line modification will also be low because of the size of the tie-in line, use of nonreflective materials, distance from each KOP, and the current prevalence of transmission lines in the area. (Ex. 200, p. 4.12-13.) In addition, visual impacts of these activities will be temporary because the construction period for the entire transmission line modification will be about four months and the activity at any one place will last only several days. (Ex. 200, p. 4.12-13.)

These insignificant-to-minimal construction impacts will be mitigated by implementation of Conditions of Certification **VIS-1** and **VIS-2**. Condition **VIS-1** will reduce the visibility of construction equipment, materials, and activities at the project site and related storage areas by requiring the placement of temporary screening before ground disturbance begins. Condition **VIS-2** requires removal of all evidence of construction activities and restoration of the ground surface to original or better condition.

2. Operation Impacts and Mitigation

Staff's and Applicant's respective evaluations of KOP conditions with and without the project considered factors such as visual quality, viewer concern, visibility, number of viewers, and duration of the view. (Exs. 18, pp. 5.13-7, 5.13-11 to 5.13-12; 52; 200, pp. 4.12-8 to 4.12-13, 4.12-29 to 4.12-30.) Based on these evaluations, the evidence of record shows that the visual sensitivity and visual change impacts from the three KOPS are not significant.

KOP1 is located at the intersection of West Schulte Road and South Lammers Road and represents unobstructed views from residences located about one quarter to one mile northeast of GWF Tracy. (Exs. 18, p. 5.13-8 to 5.13-9, 200, p. 4.12-8.) KOP2 is located about one and one-half miles southeast from GWF Tracy and represents the view of motorists traveling in the westbound lane of scenic roadway I-580. (Exs. 18, p. 5.13-16; 200, p. 4.12-10.) Both sites have, and will continue to have, moderately low visual quality for similar but not identical reasons. (Exs. 18, p. 5.13-9; 200, pp. 4.12-8 to 4.12-11.)

At KOP1, the view is dominated by agricultural land in the foreground, industrial facilities in the midground (including the existing TPP, Owens-Brockway glass container manufacturing plant, and Nutting-Rice warehouse), and hills in the background. (Exs. 18, 5.13-9; 200, p. 4.12-8.) Transmission towers and lines are perceptible in the midground and wind turbines are in the background. (Exs. 18, p. 5.13-9; 200, p. 4.12-8.) The view from KOP2 is dominated in the foreground by agricultural land and associated structures (including the California Aqueduct and Delta-Mendota Canal). (Exs. 18, p. 5.13-10; 200, p. 4.12-10.) This view is also dominated by industrial facilities and transmission lines. (Exs. 18, p. 5.13-9; 200, p. 4.12-10.)

KOP 3 is located about one mile southwest of the site and represents the view from a cluster of homes on Hansen Road. (Exs. 18, pp. 5.13-10, pp. 5.13-16, 200, p. 4.12-12.) From this view, agricultural land and related structures are visible in the foreground, transmission towers and lines and industrial buildings are in the midground, and hills are in the background. (Ex. 18, p. 5.13-10; 200, p. 4.12-12.) While visibility of the project from this KOP is moderately low because of the orientation of the homes and the distance between them and the site, the view is unobstructed and the duration of the view is moderately high. (Exs. 18, p. 5.13-16; 200, p. 4.12-12.)

Although GWF Tracy's two exhaust stacks are each 50 feet higher than the TPP stacks they are replacing, they blend in are not out of scale and with other vertical elements of the landscape. (Exs. 18, pp. 5.13-15 to 5.13-16; 200, pp. 4.12-9, 4.12-12.) From KOP1 and KOP2 the air-cooled condenser is partially screened from view by the existing water tower and landscaping at the residences. (Ex. 200, pp. 4.12-9, 4.12-11.) However, from KOP3, the addition of the air-cooled condenser dominates the landscape and partially blocks the background view of the City of Tracy. (Exs. 18, p. 5.13-16; 200, p. 4.12-12.) The exhaust stacks also obstruct a portion the view from KOP3. (Exs. 18, pp. 5.13-16; 200, p. 4.12-12.)

Thus, as to KOPs 1 and 2, the visual impacts from the projects are neither adverse nor significant. The impacts related to KOP3 are adverse, but not significant. Condition of Certification **VIS-4** nonetheless addresses these non-significant impacts to visual sensitivity and change by requiring the project owner implement at GWF Tracy the landscaping plan imposed on the TPP project when it was approved by the Energy Commission. Under **VIS-4**, planting of Fremont cottonwoods, western redbud, and elderberry trees would continue along the northern, eastern, and western perimeters of the four acres added to the site by GWF Tracy.

With respect to the potential impacts of visible water vapor plumes from the HRSG exhausts and air cooled condenser, the respective modeling analyses of Staff and the Applicant considered factors such as plume size and frequency and concluded that visible water vapor plumes from GWF Tracy's gas turbine/HRSG are expected to occur infrequently (well below 20 percent of seasonal daylight clear hours). (Exs. 18, pp. 5.13-15, 5.13-17; 200, pp. 4.12-33 to 4.12-35.) The analyses also concluded that no visible water plumes will be emitted from the air-cooled condenser and visible plumes are not expected from the small auxiliary boiler. It is expected that project light fixtures will be restricted to areas required for safety, security, and operations. (Exs. 18, p. 5.13-14; 200, p. 4.12-7.) Lighting is to be directed on-site and shielded from public view and non-glare fixtures will be used. (Ex. 18, p. 5.13-19.) In addition, nighttime construction is expected to take place using illumination that meets state and federal worker safety regulations. (Exs. 18, pp. 5.13-14, 5.13-16, 5.13-19; 200, pp. 4.12-7, 4.12-14.)

Even so, the project has potential to introduce light off-site to surrounding properties and up-lighting to the nighttime sky during both construction and operation. (Ex. 200, p. 4.12-14.)

Conditions of Certification **VIS-3**, **VIS-5**, **VIS-6**, and **VIS-7** will ensure the project will not be a source of glare by imposing requirements for the design and direction of lighting, and color and texture of finishes on project structures, transmission facilities, fences, and walls.

3. Cumulative Impacts

A cumulative impact refers to a proposed project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the proposed project. [14 Cal. Code of Regs, § 15355.]

The project exists in an area that has been used for industrial purposes for many years. Therefore, the introduction to the KOP viewsheds of facilities such as the new steam generators, exhaust stacks, and air-cooled condenser will not result in a cumulatively considerable change to the existing industrial visual setting. (Ex. 200, pp. 4.12-14 to 4.12-15.)

However, in conjunction with two approved housing projects, GWF Tracy could have the potential to create a significant cumulative impact. As shown by the evidence of record, this outcome is not likely given that the housing projects will be required by their respective specific plans (*Ellis Specific Plan* and *Tracy Hills Specific Plan*) to provide additional screening of GWF Tracy through landscaping and design requirements to reduce GWF Tracy's visibility and contrast with the surrounding area. (Ex. 200, p. 4.12-15.)

Even though the addition of GWF Tracy to the existing TPP site has the potential to introduce light and glare to the area, which could result in a significant cumulative impact, implementation of Conditions of Certification **VIS-3**, **VIS-5**, **VIS-6**, and **VIS-7** will help ensure that the visual impacts of light and glare are minimized.

4. Public and Intervenor Comments

None of the Intervenors offered any expert testimony to contradict the above-summarized evidence from the Applicant and Staff. Rather, Intervenors Elissagary and Tusso opined orally and in writing that GWF Tracy's proposed facilities will increase the height of the existing TPP improvements by about 30 feet and as a result, the new facilities will further exacerbate the existing adverse visual impacts to their quality of life and right to the quiet enjoyment of their residential property and will also undermine their ability to make different uses of their property. (Ex. 200, p. 4.12-19, 11/17/09 RT 31:1-37:21, 11/30/09 RT pp. 10 - 18.)

Staff responded to the Intervenor comments as follows: (1) GWF Tracy is an upgrade of the existing TPP at the existing TPP site, (2) both the TPP and GWF Tracy are allowable uses under the San Joaquin County General Plan, (3) the TPP site is already surrounded by other industrial uses, (4) the Tuso properties on South Lammers Road were included in Staff's visual analysis for KOP1, and (5) the Tuso and Elissagaray properties on Valpico Road were not included in the visual analyses of the KOPs because those properties are four to five miles from GWF Tracy and have a greatly diminished view of the site. (Ex. 200, pp. 4.12-19 to 4.12-20.)

Tracy Hills, LLC, the developer of the Tracy Hills project, submitted written objections to Staff's Preliminary Staff Assessment (PSA). However, it subsequently withdrew its objections and submitted a letter in support of the project. (Docket No. 54402, dated December 3, 2009).

We have examined the evidence of record and find that it convincingly rebuts the contentions advanced by the Intervenor. (See, e.g., Exs. 18, pp. 5.13-8 to 5.13-9, 5.13-15 to 5.13-6; 200, pp. 4.12-8 to 4.12-9, 4.12-14 to 4.12-16.)

FINDINGS OF FACT

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

1. GWF Tracy will be located in an area surrounded by existing industrial and commercial development.
2. The project area possesses no identified scenic vistas.
3. GWF Tracy will not substantially damage scenic resources.
4. GWF Tracy will not substantially degrade the existing visual character or quality of the site and its surroundings.
5. Construction of the project's linear facilities will cause temporary visual impacts, but no permanent visual impacts will result.
6. The project owner will implement appropriate mitigation measures to reduce or eliminate visual impacts due to backscatter and glare from nighttime lighting, as well as from the project components.
7. The predicted occurrence of visible vapor plumes is less than 20 percent of seasonal daylight clear hours.

8. Implementation of the Conditions of Certification will ensure that the project's visual impacts are less than significant.
9. GWF Tracy will not create or contribute to the creation of significant adverse cumulative visual impacts.
10. Implementation of the Conditions of Certification will ensure that the project's visual impacts are less than significant.
11. Implementation of the Conditions of Certification, below, will ensure that GWF Tracy complies with all applicable laws, ordinances, regulations, and standards relating to visual resources identified in the pertinent portion of **Appendix A** of this Decision.

CONCLUSION OF LAW

1. We therefore conclude that, with implementation of the following Conditions of Certification, the project will not cause any significant adverse direct, indirect, or cumulative impacts to visual resources.

CONDITIONS OF CERTIFICATION

VIS-1 The project owner shall reduce the visibility of construction equipment, materials, and activities at the project site and as appropriate at any storage areas for staging, material, and equipment with temporary screening such as fabric attached to fencing or berms prior to the start of ground disturbance. Screening shall be of an appropriate height, design, opacity, and color for each specific location, as determined by the CPM.

The project owner shall submit to the CPM for review and approval a specific screening plan, the proper implementation of which shall satisfy the requirements listed in the previous paragraph. The project owner shall provide with the plan a sample (at least 3" x 5") of the proposed screening material.

Verification: At least 30 days prior to the start of site mobilization, the project owner shall submit the screening plan to the CPM for review and approval. The screening shall be installed during the site mobilization phase. The project owner shall notify the CPM when installation is completed.

The project owner shall provide the CPM with electronic color photographs after installing screening at the plant site, including the staging, material, and equipment storage areas, to demonstrate the effectiveness of the screening.

VIS-2 The project owner shall remove all evidence of construction activities, and shall restore the ground surface to the original condition or better

condition, including the replacement of any vegetation or paving removed during construction where project development does not preclude this. The project owner shall submit to the CPM for review and approval a surface restoration plan the proper implementation of which will satisfy these requirements.

Verification: At least 60 days prior to the start of commercial operation, the project owner shall submit the surface restoration plan to the CPM for review and approval.

If the CPM notifies the project owner that any revisions of the surface restoration plan are needed, within 30 days of receiving that notification the project owner shall submit to the CPM a plan with the specified revisions.

The project owner shall complete surface restoration within 60 days after the start of commercial operation. The project owner shall notify the CPM within seven days after completion of surface restoration that the restoration is ready for inspection.

VIS-3 The project owner shall ensure that lighting for construction of the power plant is used in a manner that minimizes potential night lighting impacts, as follows:

- A. All lighting shall be of minimum necessary brightness consistent with worker safety and security.
- B. All fixed position lighting shall be shielded/hooded, and directed downward and toward the area to be illuminated to prevent direct illumination of the night sky and direct light trespass (direct light extending outside the boundaries of the power plant site or the site of construction of ancillary facilities, including any security related boundaries).
- C. Wherever feasible and safe and not needed for security, lighting shall be kept off when not in use.

Verification: Within seven days after the first use of construction lighting, the project owner shall notify the CPM that the lighting is ready for inspection. If the CPM requires modifications to the lighting, within 15 days of receiving that notification the project owner shall implement the necessary modifications and notify the CPM that the modifications have been completed.

Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the General Conditions section including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. A copy of the complaint resolution form report shall be included in the subsequent Monthly Compliance Report.

VIS-4 GWF Tracy will extend the footprint of the current Tracy Peaker Project 3.28 acres. Applicant has proposed continuing for those 3.28 acres the

landscaping plan as proposed in Condition of Certification **VIS-1**, as modified in the *Supplement to Staff Assessment on Tracy Peaker Project*, California Energy Commission, February 1, 2002.

This Condition of Certification **VIS-4**, designed to ensure the continuation of this previously approved and revised landscaping plan, requires the continuation of the planting of trees and shrubs along the northern, eastern, and western edges of the 3.28 acres added to the site by the construction of GWF Tracy.

This landscaping plan will help to ensure that GWF Tracy blends in with its surroundings as well as complies with the County of San Joaquin's General Plan, Section VI, Resources, and with San Joaquin County's *Landscaping, Fencing, and Screening Manual*.

Verification: At least 30 (thirty) days prior to start of landscape installation, the project owner shall submit the revised perimeter landscape plan to the San Joaquin County Community Development Department for ordinance consistency review and comment and to the CPM for review and approval. This plan, designed to continue the landscaping of the same trees and shrubs approved for the TPP to be planted along the northern, eastern, and western edges of the entire site. The continuation of the previous landscaping plan to include the 3.28 acres added by the construction of GWF Tracy will help to blend GWF Tracy with its surroundings.

If the CPM notifies the project owner that revisions of the submittal are needed before the CPM will approve the submittal, within 15 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 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-5 To the extent feasible and consistent with safety and security considerations, the project owner shall design and install all permanent exterior lighting such that (1) lamps and reflectors are not visible from beyond the project site, including any off-site security buffer areas; (2) lighting does not cause excessive reflected glare; (3) direct lighting does not illuminate the nighttime sky; (4) illumination of the project and its immediate vicinity is minimized; and (5) the plan complies with local policies and ordinances.

The project owner shall submit simultaneously to the CPM and the San Joaquin County Community Development Department a lighting mitigation plan to ensure the following:

- A. Location and direction of light fixtures shall be positioned according to the lighting mitigation requirements.
- B. To aid in satisfying the lighting mitigation requirements, lighting shall be designed to consider setbacks of project features from the site boundary.
- C. Lighting shall incorporate fixture hoods/shielding with light directed downward or toward the area to be illuminated.
- D. Light fixtures visible from beyond the project boundary shall be fitted with cutoff angles sufficient to prevent lamps and reflectors from being visible beyond the project boundary, except where necessary for security.
- E. All lighting shall be of minimum necessary brightness consistent with operation safety and security.
- F. Lights in high illumination areas not occupied on a continuous basis—maintenance platforms, for instance—shall have in addition to hoods switches, timer switches, or motion detectors so that lights operate only when the area is occupied.
- G. Design the new 150-foot exhaust stacks and the 50-foot natural gas fired auxiliary boiler exhaust stack such that they shall not be lighted at night with hazard lighting— any steady task-related lighting on these structures shall remain off except when needed for human access.

Verification: At least 90 days prior to ordering any permanent exterior lighting, the project owner shall contact the CPM to discuss the documentation required in the lighting mitigation plan.

At least 60 days prior to ordering any permanent exterior lighting, the project owner shall submit to the CPM for review and approval and simultaneously to San Joaquin County Community Development Department for review and comment a lighting mitigation plan.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a revised plan for review and approval by the CPM.

The project owner shall not order any exterior lighting until receiving CPM approval of the lighting mitigation plan.

Prior to commercial operation, the project owner shall notify the CPM that the lighting has been completed and is ready for inspection. If after inspection the CPM notifies the project owner that modifications to the lighting are needed, within 30 days of receiving that notification the project owner shall implement the modifications and notify the CPM that the modifications have been completed and are ready for inspection.

Within 48 hours of receiving a lighting complaint, the project owner shall provide the CPM with a complaint resolution form report as specified in the Compliance

General Conditions including a proposal to resolve the complaint, and a schedule for implementation. The project owner shall notify the CPM within 48 hours after completing implementation of the proposal. A copy of the complaint resolution form report shall be submitted to the CPM within 30 days.

VIS-6 The project owner shall treat the surfaces of all project structures and buildings visible to the public such that a) their colors minimize visual intrusion and contrast by blending with the landscape; b) their colors and finishes do not create excessive glare; and c) their colors and finishes are consistent with local policies and ordinances. The transmission line conductors shall be non-specular and non-reflective, and the insulators shall be non-reflective and non-refractive.

The project owner shall submit for CPM review and approval, a specific surface treatment plan that will satisfy these requirements. The treatment plan shall include:

- A. A description of the overall rationale for the proposed surface treatment, including the selection of the proposed colors and finishes.
- B. A list of each major project structure, building, tank, pipe, and wall; the transmission line towers and/or poles; and fencing, specifying the colors and finish proposed for each. Colors must be identified by vendor, name, and number; or according to a universal designation system.
- C. One set of color brochures or color chips showing each proposed color and finish.
- D. One set of 11" x 17" color photo simulations at life size scale, of the treatment proposed for use on project structures, including structures treated during manufacture, from Key Observation Points 1, 2, and 3 (locations shown on Figure 2 of the Final Staff Assessment).
- E. A specific schedule for completion of the treatment.
- F. A procedure to ensure proper treatment maintenance for the life of the project.

The project owner shall not specify to the vendors the treatment of any buildings or structures treated during manufacture or perform the final treatment on any buildings or structures treated in the field until the project owner receives notification of approval of the treatment plan by the CPM. Subsequent modifications to the treatment plan are prohibited without CPM approval.

Verification: At least 90 days prior to specifying to the vendor the colors and finishes of the first structures or buildings that are surface treated during manufacture, the project owner shall submit the proposed treatment plan to the

CPM for review and approval and simultaneously to the San Joaquin County Community Development Department for review and comment.

If the CPM determines that the plan requires revision, the project owner shall provide to the CPM a plan with the specified revisions for review and approval by the CPM before any treatment is applied. Any modifications to the treatment plan must be submitted to the CPM for review and approval.

Prior to the start of commercial operation, the project owner shall notify the CPM that surface treatment of all listed structures and buildings has been completed and they are ready for inspection and shall submit one set of electronic color photographs from the same key observation points identified in (d) above.

The project owner shall provide a status report regarding surface treatment maintenance in the Annual Compliance Report. The report shall specify (a): the condition of the surfaces of all structures and buildings at the end of the reporting year; (b) maintenance activities that occurred during the reporting year; and (c) the schedule of maintenance activities for the next year.

VIS-7 GWF Tracy will extend the footprint of the current TPP approximately four acres. To ensure continuity with the fencing surrounding the current TPP, fencing shall be installed around the perimeter of the facility. The fencing shall be the same as installed around the perimeter of the TPP: six-foot high, two-inch mesh, non-reflective fabric chain link with sand-colored vertical PVC slats. All fences and walls for GWF Tracy shall be treated the same as fences and walls for the current TPP. That is, they shall be non-reflective and treated in appropriate colors or hues that minimize visual intrusion and contrast by blending with the surrounding landscape as well as with the existing fencing surrounding the TPP. Fences and walls for the project shall comply with any applicable requirements of the San Joaquin County Community Development Department that relate to visual resources or fencing.

Verification: Prior to ordering fences and walls, the project owner shall submit simultaneously to the CPM for review and approval and to the San Joaquin County Community Development Department for review and comment, design specifications for fences and walls and documentation of their conformance with any requirements of San Joaquin County Community Development Department.

The project owner shall not order fences and walls until the submittal is approved by the CPM.

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Appendix A: *Laws, Ordinances, Regulations, and Standards*

Appendix B: *Exhibit List*

Appendix C: *Proof of Service List*

APPENDICES



AIR QUALITY

<i>Applicable LORS</i>	<i>Description</i>
Federal	U.S. Environmental Protection Agency
CAAA of 1990, 40 CFR 50	National Ambient Air Quality Standards (NAAQS).
CAA Sec. 171-193, 42 USC 7501,40 CFR 51	New Source Review (NSR) – Requires NSR permit for new stationary sources. This requirement is addressed through SJVAPCD Rule 2201.
40 CFR 52.21	Prevention of Significant Deterioration (PSD) – Requires dispersion modeling to demonstrate no violation of NAAQS or PSD increments, for pollutants that attain the NAAQS. A PSD permit is not required because GWF Tracy would neither be a new major stationary source nor a major modification to an existing major source, under the federal definitions of these terms in the PSD rules. GWF Tracy is not considered to be a new major stationary source since the criteria pollutant potential to emit (PTE) would be less than the PSD major source threshold for the fossil fuel-fired steam-electric plant category, which is 100 tons per year for each PSD criteria pollutant (NO ₂ , CO, PM ₁₀ , and SO ₂). GWF Tracy would not be a major modification under PSD since the existing facility is not a PSD major source and the new project emissions would not by themselves be major. The PSD program in the San Joaquin Valley is administered by the U.S. EPA.
40 CFR 60, Subpart K K K K	Standards of Performance for Stationary Combustion Turbines, New Source Performance Standard (NSPS). Replaces NSPS Subparts Da and GG for the modified combustion turbines and new duct burners with heat recovery steam generators. Requires the proposed combined cycle units to achieve 15 ppm NO _x and achieve fuel sulfur standards.
40 CFR 60, Subpart Dc	Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units. Requires monitoring of the natural gas fuel source for the proposed auxiliary boiler.
40 CFR 60, Subpart I I I I	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines. Requires the new emergency fire water pump engine to achieve: 3.0 grams per horsepower-hour (g/bhp-hr) of non-methane hydrocarbons and NO _x (NMHC+NO _x) and 0.15 g/bhp-hr PM, which are levels equivalent to U.S. EPA Tier 3 standards. The existing diesel-fired standby generator engine would not be subject to Subpart I I I I.
40 CFR 70, CAA Sec 401, 42 USC 7651	Federal Title V Operating Permit Program. Consolidates the federally-enforceable operating limits. Application required within one year following start of operation. This program is within the jurisdiction of the SJVAPCD with U.S. EPA oversight [SJVAPCD Rule 2520].
40 CFR 72, CAA Sec 401 42 USC	Title IV Acid Rain – Applicable to electrical generating units greater than 25 MW. Requires Title IV permit and compliance with acid rain

Applicable LORS	Description
7651	provisions, implemented through the Title V program. This program is within the jurisdiction of the SJVAPCD with U.S. EPA oversight [SJVAPCD Rule 2540].
State	California Air Resources Board and Energy Commission
Health and Safety Code (HSC) Section 40910-40930	Permitting of source needs to be consistent with approved clean air plan. The SJVAPCD New Source Review (NSR) program is consistent with regional air quality management plans.
California Health & Safety Code Section 41700	Public Nuisance Provisions – Outlaws the discharge of air contaminants that cause nuisance, injury, detriment, or annoyance.
California Code of Regulations for Off-Road Diesel-Fueled Fleets (13 CCR §2449, et seq.)	General Requirements for In-Use Off-Road Diesel-Fueled Fleets – Requires owners and operators of in-use (existing) off-road diesel equipment and vehicles to begin reporting fleet characteristics to CARB in 2009 and meet fleet emissions targets for diesel particulate matter and NOx in 2010.
Airborne Toxic Control Measure for Idling (ATCM, 13 CCR §2485)	ATCM to Limit Diesel-Fueled Commercial Motor Vehicle Idling – Generally prohibits idling longer than five minutes for diesel-fueled commercial motor vehicles.
Local	San Joaquin Valley Air Pollution Control District
Regulation I, General Provisions	Establishes the requirements and standards for stack monitoring, source sampling, and breakdown events and identifies penalties.
Regulation II, Permits	Establishes the regulatory framework for permitting new and modified sources. Included in these requirements are the federally-delegated requirements for NSR, the Title V Operating Permit Program, and the Title IV Acid Rain Program.
Rule 2201, New and Modified Stationary Sources	Establishes the pre-construction review requirements for new, modified or relocated emission sources, in conformance with NSR to ensure that these facilities do not interfere with progress in attainment of the ambient air quality standards and that future economic growth in the San Joaquin Valley is not unnecessarily restricted. Establishes the requirement to prepare a Preliminary Determination of Compliance (PDOC) and Final Determination of Compliance (FDOC) during District review of an application for a power plant. This regulation establishes Best Available Control Technology (BACT) and emission offset requirements. Because the project net emission increase of NOx would exceed the federal major modification threshold (40 CFR 51.165). The SJVAPCD classifies the project as a Federal Major Modification for NOx, and public notification requirements and statewide compliance

<i>Applicable LORS</i>	<i>Description</i>
	demonstration are triggered (SJVAPCD2009d).
Rule 2520, Federally Mandated Operating Permits	Establishes the permit application and compliance requirements for the federal Title V federal permit program. GWF Tracy qualifies as a Title V facility that is subject to NSPS, and GWF must submit the application to modify the Title V permit (as in AFC Table 5.1-19, p. 5.1-31, GWF2008a).
Rule 2540, Acid Rain Program	Implements the federal Title IV Acid Rain Program, which requires subject facilities to obtain emission allowances for SOx emissions and requires fuel sampling and/or continuous monitoring to determine SOx and NOx emissions.
Regulation IV, Prohibitions	Sets forth the restrictions for visible emissions, odor nuisance, various air emissions, and fuel contaminants. Regulation IV incorporates the NSPS provisions of 40 CFR 60, including standards for stationary combustion turbines (Subpart KKKK). These rules limit emissions of NOx, VOC, CO, particulate matter, and sulfur compounds.
Rule 4306, Boilers, Steam Generators, and Process Heaters	Limits NOx and CO from boilers and steam generators. The proposed auxiliary boiler is subject to NOx limit of 9 parts per million by volume (ppmv) and CO limit of 400 ppmv.
Rule 4702, Internal Combustion Engines	Limits emissions of NOx, CO, and VOC from internal combustion engines. However, as emergency units, the new emergency fire water pump engine would be exempt from emission limits, subject to monitoring and recordkeeping. The existing emergency standby engine-generator set is also subject to monitoring and recordkeeping.
Rule 4703, Stationary Gas Turbines	Limits the proposed stationary gas turbine emissions of NOx to 5 ppmv over a 3-hour averaging period and CO to 25 ppmv. Provided certain demonstrations are made, the emission limits do not apply during startup, shutdown, or reduced load periods (defined as “transitional operation periods”).
Regulation V, Procedure before the Hearing Board	Establishes the procedures for reporting emergencies and emergency variances.
Regulation VIII, Fugitive PM10 Prohibition	Sets forth the requirements and performance standards for the control of emissions from fugitive dust causing activities.

ALTERNATIVES

California Environmental Quality Act (CEQA)

Energy Commission staff is required by agency regulations to examine the “feasibility of available site and facility alternatives to the Applicant’s proposal which substantially lessen the significant adverse impacts of the proposal on the environment.” (Cal. Code Regs., tit. 20, § 1765.)

The “Guidelines for Implementation of the California Environmental Quality Act,” Title 14, California Code of Regulations, Section 15126.6(a), requires 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 analysis should identify and compare the impacts of the various alternatives, but analysis of alternatives need not be in as much detail as the analysis of the proposed project.

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 if its effect cannot be reasonably ascertained and if its implementation is remote and speculative. (Cal. Code Regs., tit. 14, §15126.6[f][3].) However, if the range of alternatives is defined too narrowly, the analysis may be inadequate (*City of Santee v. County of San Diego* [4th District, 1989] 214 Cal. App. 3d 1438).

BIOLOGY

<i>Applicable LORS</i>	<i>Description</i>
<i>Federal</i>	
Endangered Species Act (Title 16, United States Code, sections 1531 et seq.; Title 50, Code of Federal Regulations, part 17.1 et seq.)	Designates and provides for the protection of threatened and endangered plant and animal species and their critical habitat. The administering agency is USFWS.
Fish and Wildlife Coordination Act (Title 16, United States Code, section 661)	Requires all federal agencies to coordinate with the USFWS in the preservation of fish and wildlife implementing federal actions.
Bald Eagle Protection Act (Title 16, United States Code 668)	Specifically protects bald and golden eagles from harm or trade in parts. Includes golden eagles because immatures of both species look similar for several years.
Migratory Bird Treaty Act (Title 16, United States Code, sections 703–711)	Prohibits the take or possession of any migratory nongame bird (or any part of such migratory nongame bird), including nests with viable eggs. As defined, includes nearly every nongame bird in the state. The administering agency is USFWS.
<i>State</i>	
California Endangered Species Act (Fish and Game Code, sections 2050 et seq.)	Protects California's rare, threatened, and endangered species. The administering agency is CDFG.
California Code of Regulations (Title 14, sections 670.2 and 670.5)	Lists the plants and animals that are classified as rare, threatened, or endangered in California. The administering agency is CDFG.
California Public Resources Code (Title 14, sections 670.2 and 670.5)	Lists the plants and animals of California that are declared rare, threatened, or endangered. Administering agency is CDFG.
California Species Preservation Act of 1970 (California Fish and Game Code 900-903)	Requires the protection and enhancement of birds, mammals, fishes, amphibians, and reptiles of California. Administering agency is CDFG.
Fully Protected Species (Fish and Game Code, sections 3511, 4700, 5050, and 5515)	Designates certain bird, mammal, reptile, amphibian, and fish species as fully protected, and prohibits take of such species. The administering agency is CDFG.

<i>Applicable LORS</i>	<i>Description</i>
Native Plant Protection Act (Fish and Game Code, section 1900 et seq.)	Designates rare, threatened, and endangered plants in California and prohibits the taking of listed plants. The administering agency is CDFG.
Nest or Eggs (Fish and Game Code, section 3503)	Prohibits take, possession, or needless destruction of the nest or eggs of any bird. The administering agency is CDFG.
Birds of Prey (Fish and Game Code section 3503.5)	Specifically protects California's birds of prey in the orders Falconiformes and Strigiformes by making it unlawful to take, possess, or destroy any such birds or to take, possess, or destroy the nests or eggs of any such bird. The administering agency is CDFG.
Migratory Birds (Fish and Game Code, section 3513)	Prohibits take or possession of any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird. The administering agency is CDFG.
<i>Local</i>	
San Joaquin County Multi-species Habitat Conservation and Open Space Plan	Provides a strategy for balancing the need to conserve open space and the need to convert open space to developed uses while protecting the region's agricultural economy; preserving landowner property rights; providing for the long-term management of plant, fish, and wildlife species, especially those that are currently listed or may be listed in the future, under federal or state ESAs; providing and maintaining multiple-use open spaces that contribute to the quality of life of the residents of San Joaquin County; and accommodating a growing population while minimizing costs to project proponents and society at large (SJCOG 2000).
San Joaquin County General Plan 2010 – Vegetation, Fish, and Wildlife Habitat	Intended to protect and improve the county's vegetation, fish, and wildlife resources, and provide undeveloped open space for nature study, protection of endangered species, and preservation of wildlife habitat. Resources of significant biological and ecological importance shall be protected, including wetlands; riparian areas; rare, threatened, and endangered species and their habitats as well as potentially rare or commercially important species; vernal pools; and significant oak groves and heritage trees.

CULTURAL

<i>Applicable LORS</i>	<i>Description</i>
State	
Public Resources Code 5097.98 (b) and (e)	Requires a landowner on whose property Native American human remains are found to limit further development activity in the vicinity until he/she confers with the Native American Heritage Commission-identified Most Likely Descendants (MLDs) to consider treatment options. In the absence of MLDs or of a treatment acceptable to all parties, the landowner is required to re-inter the remains elsewhere on the property in a location not subject to further disturbance.
Health and Safety Code, section 7050.5	Makes it a misdemeanor to disturb or remove human remains found outside a cemetery; also requires a project owner to halt construction if human remains are discovered and to contact the county coroner.
Local	
San Joaquin County General Plan, Sections G and H	The county follows all provisions of CEQA. The General Plan Heritage Resource section details the county's goals with respect to the preservation of significant historical and archaeological sites and structures in the county. Section G lists San Joaquin County resources listed on the National Register of Historic Places, as well as local historic points of interest and local historic landmarks.
City of Tracy Municipal Code, Ordinance 1048; City of Tracy General Plan. Land Use Element	With Ordinance 1048, the City adopted the California Historic Building Code (Health and Safety Code, § 18950 et seq.) by reference. In its General Plan, the City of Tracy encourages preservation of historical resources by providing information regarding historic and cultural resources. The City of Tracy does not maintain a list of recognized historical resources.

FACILITY DESIGN

Applicable LORS	Description
Federal	Title 29 Code of Federal Regulations (CFR), Part 1910, Occupational Safety and Health standards
State	2007 California Building Standards Code (CBSC) (also known as Title 24, California Code of Regulations)
Local	San Joaquin County regulations and ordinances
General	American National Standards Institute (ANSI) American Society of Mechanical Engineers (ASME) American Welding Society (AWS) American Society for Testing and Materials (ASTM)

GEOLOGICAL AND PALEONTOLOGICAL RESOURCES

Applicable LORS	Description
Federal	
	The proposed GWF Tracy is not located on federal land. There are no federal LORS for geologic hazards and resources for this site.
State	
California Building Code (2007)	The CBC (2007) includes a series of standards that are used in project investigation, design, and construction (including grading and erosion control). The CBC has adopted provisions in the International Building Code (ICC 2006).
Alquist-Priolo Earthquake Fault Zoning Act, Public Resources Code (PRC), sections 2621–2630	The act mitigates against surface fault rupture of known active faults beneath occupied structures. Requires disclosure to potential buyers of existing real estate and a 50-foot setback for new occupied buildings. The project site is not located within a designated Alquist-Priolo Fault Zone.
The Seismic Hazards Mapping Act, PRC sections 2690–2699	Areas are identified that are subject to the effects of strong ground shaking, such as liquefaction, landslides, tsunamis, and seiches.
PRC, Chapter 1.7, sections 5097.5 and 30244	The code regulates removal of paleontological resources from state lands, defines unauthorized removal of fossil resources as a misdemeanor, and requires mitigation of disturbed sites.
Warren-Alquist Act, PRC, sections 25527 and 25550.5(i)	The Warren-Alquist Act requires the Energy Commission to “give the greatest consideration to the need for protecting areas of critical environmental concern, including, but not limited to, unique and irreplaceable scientific, scenic, and educational wildlife habitats; unique historical, archaeological, and cultural sites...” With respect to paleontologic resources, the Energy Commission relies on guidelines from the Society for Vertebrate Paleontology (SVP), indicated below.
Society for Vertebrate Paleontology (SVP), 1995	The “Measures for Assessment and Mitigation of Adverse Impacts to Non-Renewable Paleontological Resources: Standard Procedures” is a set of procedures and standards for assessing and mitigating impacts to vertebrate paleontological resources. The measures were adopted in October 1995 by the SVP, a national organization of professional scientists.
Local	
2007 California Building Code	These codes address the excavation, grading, and earthwork construction, not limited to construction relating to earthquake safety and seismic activity hazards.
County of San Joaquin General Plan (1992), section VI	The section requires a general plan for long-term development. Under this plan, paleontological resources shall be protected and preserved.

<i>Applicable LORS</i>	<i>Description</i>
City of Tracy General Plan (2025), section 6.0	The plan indicates that City staff shall require property owners/developers to provide studies to document the presence/absence of archaeological and/or paleontological resources for areas with documented or inferred resource presence. On properties where resources are identified, a detailed mitigation plan shall ensue, including a monitoring program and recovery and/or in situ preservation plan, based on the recommendations of a qualified specialist.

GREENHOUSE GASES

<i>Applicable LORS</i>	<i>Description</i>
State	
California Global Warming Solutions Act of 2006, AB 32 (Stats. 2006; Chapter 488; Health and Safety Code sections 38500 et seq.)	California Global Warming Solutions Act of 2006. This act requires the California Air Resources Board (ARB) to enact standards that will reduce GHG emissions to 1990 levels. Electricity production facilities will be regulated by the ARB.
California Code of Regulations, tit. 17, Subchapter 10, Article 2, sections 95100 et. seq.	ARB regulations implementing mandatory GHG emissions reporting as part of the California Global Warming Solutions Act of 2006 (Stats. 2006; Chapter 488; Health and Safety Code sections 38500 et seq.)
Title 20, California Code of Regulations, section 2900 et seq.; CPUC Decision D0701039 in proceeding R0604009	The regulations prohibit utilities from entering into long-term contracts with any base load facility that does not meet a greenhouse gas emission standard of 0.5 metric tonnes carbon dioxide per megawatt-hour (0.5 MTCO ₂ /MWh) or 1,100 pounds carbon dioxide per megawatt-hour (1,100 lb CO ₂ /MWh)

HAZARDOUS MATERIALS MANAGEMENT

<i>Applicable LORS</i>	<i>Description</i>
Federal	
The Superfund Amendments and Reauthorization Act of 1986 (42 USC §9601 et seq.)	Contains the Emergency Planning and Community Right To Know Act (also known as SARA Title III).
The Clean Air Act (CAA) of 1990 (42 USC 7401 et seq. as amended)	Established a nationwide emergency planning and response program and imposed reporting requirements for businesses that store, handle, or produce significant quantities of extremely hazardous materials.
The CAA section on risk management plans (42 USC §112(r))	Requires states to implement a comprehensive system informing local agencies and the public when a significant quantity of such materials is stored or handled at a facility. The requirements of both SARA Title III and the CAA are reflected in the California Health and Safety Code, section 25531, et seq.
49 CFR 172.800	The U.S. Department of Transportation (DOT) requirement that suppliers of hazardous materials prepare and implement security plans.
49 CFR Part 1572, Subparts A and B	Requires suppliers of hazardous materials to ensure that all their hazardous materials drivers are in compliance with personnel background security checks.
The Clean Water Act (CWA) (40 CFR 112)	Aims to prevent the discharge or threat of discharge of oil into navigable waters or adjoining shorelines. Requires a written spill prevention, control, and countermeasures (SPCC) plan to be prepared for facilities that store oil that could leak into navigable waters.
Title 49, Code of Federal Regulations, Part 190	Outlines gas pipeline safety program procedures.
Title 49, Code of Federal Regulations, Part 191	Addresses 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 DOT of any reportable incident by telephone and then submit a written report within 30 days.
Title 49, Code of Federal Regulations, Part 192	Addresses transportation of natural and other gas by pipeline and minimum federal safety standards, specifies minimum safety requirements for pipelines including material selection, design requirements, and corrosion protection. The safety requirements for

<i>Applicable LORS</i>	<i>Description</i>
	pipeline construction vary according to the population density and land use that characterize the surrounding land. This part also contains regulations governing pipeline construction (which must be followed for Class 2 and Class 3 pipelines) and the requirements for preparing a pipeline integrity management program.
Federal Register (6 CFR Part 27) interim final rule	A regulation of the U.S. Department of Homeland Security that requires facilities that use or store certain hazardous materials to submit information to the department so that a vulnerability assessment can be conducted to determine what certain specified security measures shall be implemented.

LAND USE

Applicable LORS	Description
Federal	None
State	
<u>Subdivision Map Act (Public Resources Code Section 66410-66499.58)</u>	This section of the California Public Resources Code provides procedures and requirements regulating land division (subdivisions) and parcel legality. Regulation and control of the design and improvement of subdivisions have been vested in the legislative bodies of local agencies.
Local	
<u>San Joaquin County General Plan (SJC 1995a, SJC 1995b, SJC 2009a)</u>	<p>The San Joaquin County General Plan 2010, adopted in July 1992 and revised in 1995, reflects the values and contains the goals of the community with respect to development. The plan is general in nature and provides a vision of the future. The General Plan contains an evaluation of existing conditions and provides long-term goals and policies to guide growth and development through the year 2010. The General Plan is implemented by the county through its zoning, subdivision ordinances, specific plans, growth management policies, planned development districts, development agreements, development review, code enforcement, land use database, capital improvement programs, environmental review procedures, building and housing codes, and redevelopment plans. 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 San Joaquin County's Tracy Planning Area in the unincorporated area of the county, within a broader planning region called Mountain View. Although the project site is within the City of Tracy's Sphere-of-Influence, it is outside the city's jurisdictional boundaries. The County General Plan does not have specified planning guidelines for this region. The General Plan elements applicable to the land use and agricultural resources associated with the proposed project are described below.</p> <p>San Joaquin County is in the process of updating the General Plan and in February 2005, adopted a revised Housing Element. The fully updated General Plan is not scheduled to be completed until 2011. Consequently, draft policies associated with the Draft General Plan Update would not be applicable to this project.</p>
<u>Title 9 – Development Title of San Joaquin County (SJC 1995c)</u>	The Development Title functions similar to a zoning code, and establishes regulations to protect and promote the public health, safety and welfare. This is achieved by implementing and ensuring compliance of the general plan in order to guide and manage the future growth of the county; regulation of land use in a manner that will encourage and support the orderly development and beneficial use of lands within the county; minimizing adverse effects on the

<i>Applicable LORS</i>	<i>Description</i>
	<p>public resulting from the inappropriate creation, location, use or design of building sites, buildings, land uses, parking areas, or other forms of land development by providing appropriate standards for development; protecting and enhancing the significant natural, historic, archaeological and scenic resources within the county as identified by the county general plan; and providing assistance to the public.</p>

NOISE AND VIBRATION

<i>Applicable LORS</i>	<i>Description</i>
Federal	
(OSHA): 29 U.S.C. § 651 et seq.	Protects workers from the effects of occupational noise exposure
State	
(Cal/OSHA): Cal. Code Regs., tit. 8, §§ 5095-5099	Protects workers from the effects of occupational noise exposure
Local	
San Joaquin County Ordinance Code, § 9-1025.9	Limits noise from stationary sources to 45 dBA L_{eq} nighttime, 50 dBA L_{eq} daytime at residences

POWER PLANT EFFICIENCY

No federal, state, local, or county laws, ordinances, regulations and standards (LORS) apply to the efficiency of this project.

POWER PLANT RELIABILITY

No federal, state, local, or county laws, ordinances, regulations and standards (LORS) pertain to the reliability of this project.

PUBLIC HEALTH

Applicable LORS	Description
Federal	
Clean Air Act section 112 (Title 42, U.S. Code section 7412)	The National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires new sources that emit more than 10 tons per year of any specified Hazardous Air Pollutant (HAP) or more than 25 tons per year of any combination of HAPs to apply Maximum Achievable Control Technology.
State	
California Health and Safety Code section 25249.5 et seq. (Proposition 65)	These sections establish thresholds of exposure to carcinogenic substances above which Prop 65 exposure warnings are required.
California Health and Safety Code section 41700	This section states that “no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property.”
California Code of Regulations, Title 22, section 60306	Requires that whenever a cooling system uses recycled water in conjunction with an air conditioning facility and a cooling tower that creates a mist that could come into contact with employees or members of the public, a drift eliminator shall be used and chlorine, or other, biocides shall be used to treat the cooling system recirculating water to minimize the growth of Legionella and other micro-organisms.
California Public Resource Code section 25523(a); Title 20 California Code of Regulations (CCR) section 1752.5, 2300–2309 and Division 2 Chapter 5, Article 1, Appendix B, Part (1); California Clean Air Act, Health and Safety Code section 39650, et seq.	These regulations require a quantitative health risk assessment for new or modified sources, including power plants that emit one or more toxic air contaminants (TACs).
Local	
SJVAPCD Rule 7012	This rule limits the emissions of hexavalent chromium from cooling towers and prohibits the use of products containing these compounds for treatment of cooling tower water.

SOCIOECONOMICS

<i>Applicable LORS</i>	<i>Description</i>
California Education Code, Section 17620	The governing board of any school district is authorized to levy a fee, charge, dedication, or other requirement for the purpose of funding the construction or reconstruction of school facilities.
California Government Code, Sections 65996-65997	Except for a fee, charge, dedication, or other requirement authorized under Section 17620 of the Education Code, state and local public agencies may not impose fees, charges, or other financial requirements to offset the cost for school facilities.

SOIL AND WATER RESOURCES

<i>Applicable LORS</i>	<i>Description</i>
Federal	
Clean Water Act (CWA) (33 USC Section 1251 et seq.)	The 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. This includes regulation of storm water discharges during construction and operation of a facility normally addressed through a general National Pollutant Discharge Elimination System (NPDES) permit.
CWA Section 401	Section 401 of the CWA requires that any activity that may result in a discharge into a water body must be certified by the Regional Water Quality Control Board (RWQCB)
CWA Section 404	Section 404 of the CWA authorizes the U.S. Army Corps of Engineers (ACOE) to regulate the discharge of dredged or fill material to the waters of the U.S. and adjacent wetlands. The ACOE issues site specific or general (Nationwide) permits for such discharges.
Resource Conservation and Recovery Act (RCRA) (40 CFR Part 260, et seq.)	RCRA seeks to prevent surface and groundwater contamination, sets guidelines for determining hazardous wastes, and identifies proper methods for handling and disposing of those wastes.
National Resources Conservation Service (NRCS), National Engineering Handbook, Sections 2 and 3 (1983)	Sections 2 and 3 of the USDA-NRCS National Engineering Handbook (1983) provide standards for soil conservation and erosion prevention during construction activity.
State	
California Constitution, Article X, Section 2	The State Constitution requires that the water resources of the state be put to beneficial use to the fullest extent possible and states that the waste, unreasonable use or unreasonable method of use of water is prohibited.
Porter Cologne Water Quality Control Act (PCWQCA) (Water Code §13000 et seq.)	PCWQCA requires the State Water Resources Control Board (SWRCB) and the nine RWQCBs to adopt water quality criteria to protect state waters. These standards are typically applied to the proposed project through the Waste Discharge Requirements (WDR) permit. These regulations require that the RWQCB issue Waste Discharge Requirements specifying conditions regarding the construction, operation, monitoring and closure of waste disposal sites, including injection wells and evaporation ponds for waste disposal.

Applicable LORS	Description
California Water Code (CWC) Section 13550	CWC Section 13550 requires the use of reclaimed water for industrial purposes subject to reclaimed water being available and meeting certain conditions such as the quality and quantity of the reclaimed water are suitable for the use, the cost is reasonable, and the use is not detrimental to public health.
California Water Code (CWC) Section 13552.6	CWC Section 13552.6 prohibits the use of domestic water for cooling towers if suitable recycled water is available.
Recycling Act of 1991 (Water Code § 13575 et esq.)	The Water Recycling Act of 1991 encourages the use of recycled water for certain uses and establishes standards for the development and implementation of recycled water programs.
State Policies and Guidelines	
Energy Commission Integrated Energy Policy Report (IEPR) 2003	Consistent with State Water Resources Control Board Policy 75-58 and the Warren–Alquist Act, the Energy Commission will approve the use of fresh water for cooling purposes by power plants it licenses only where alternative water supply sources and alternative cooling technologies are shown to be “environmentally undesirable” or “economically unsound”. “Additionally, the Energy Commission will require zero liquid discharge technologies unless such technologies are shown to be “environmentally undesirable” or “economically unsound”.
State Water Resources Control Board (SWRCB) Policies: Resolution 75-58 & Resolution 88-63	The principal policy of the SWRCB that addresses the specific siting of energy facilities is the Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling (adopted by the Board on June 19, 1976, by Resolution 75-58). This policy states that use of fresh inland waters should only be used for power plant cooling if other sources or other methods of cooling would be environmentally undesirable or economically unsound. Resolution 75-58 defines fresh inland waters as those “which are suitable for use as a source of domestic, municipal, or agricultural water supply and which provide habitat for fish and wildlife”. Resolution 88-63 defines suitability of sources of drinking water. The total dissolved solids must exceed 3,000 mg/l for it to not be considered suitable, or potentially suitable, for municipal or domestic water supply.
Local	
San Joaquin County General Plan 2010, Section IV (Community	Section IV of the Plan (Community Development) defines policies regarding transmission lines in the Utilities Section. Policies regarding soil conservation are found in the Agricultural Lands Section of the Resources portion (Section VI) of the Plan.

<i>Applicable LORS</i>	<i>Description</i>
Title 9—Development Title of San Joaquin County	The Development Title of San Joaquin County provides requirements for land alteration within the county. Divisions of concern within the Development Title include: Division 6 (Agricultural Zones), Division 11 (Infrastructure Standards), Division 14 (Grading and Excavation Regulations), and Division 15 (Natural Resources Regulations).
Improvement Standards for San Joaquin County	The Improvement Standards for San Joaquin County provide minimum design standards and standard plans for road, storm drain, water system, sewer system, and other improvements within the county.
San Joaquin County Standard Specifications and Special Provisions	The San Joaquin County Standard Specifications and Special Provisions provide the county's minimum requirements for excavation safety, dust control, earthwork, watering, erosion control, and pollution control.

TRANSMISSION LINE SAFETY AND NUISANCE

<i>Applicable LORS</i>	<i>Description</i>
Aviation Safety	
Federal	
Title 14, Part 77 of the Code of Federal Regulations (CFR), "Objects Affecting the Navigable Air Space"	Describes the criteria used to determine the need for a Federal Aviation Administration (FAA) "Notice of Proposed Construction or Alteration" in cases of potential obstruction hazards.
FAA Advisory Circular No. 70/7460-1G, "Proposed Construction and/or Alteration of Objects that May Affect the Navigation Space"	Addresses the need to file the "Notice of Proposed Construction or Alteration" (Form 7640) with the FAA in cases of potential for an obstruction hazard.
FAA Advisory Circular 70/460-1G, "Obstruction Marking and Lighting"	Describes the FAA standards for marking and lighting objects that may pose a navigation hazard as established using the criteria in Title 14, Part 77 of the CFR.
Interference with Radio Frequency Communication	
Federal	
Title 47, CFR, Section 15.2524, Federal Communications Commission (FCC)	Prohibits operation of devices that can interfere with radio-frequency communication.
State	
California Public Utilities Commission (CPUC) General Order 52 (GO-52)	Governs the construction and operation of power and communications lines to prevent or mitigate interference.
Audible Noise	
Local	
San Joaquin County General Plan, Noise Element	References the County's Ordinance Code for noise limits.
Hazardous and Nuisance Shocks	
State	
CPUC GO-95, "Rules for Overhead Electric Line Construction"	Governs clearance requirements to prevent hazardous shocks, grounding techniques to minimize nuisance shocks, and maintenance and inspection requirements.
Title 8, California Code of Regulations (CCR) Section 2700 et seq. "High Voltage Safety Orders"	Specifies requirements and minimum standards for safely installing, operating, working around, and maintaining electrical installations and equipment.

<i>Applicable LORS</i>	<i>Description</i>
National Electrical Safety Code	Specifies grounding procedures to limit nuisance shocks. Also specifies minimum conductor ground clearances.
Industry Standards	
Institute of Electrical and Electronics Engineers (IEEE) 1119, "IEEE Guide for Fence Safety Clearances in Electric-Supply Stations"	Specifies the guidelines for grounding-related practices within the right-of-way and substations.
Electric and Magnetic Fields	
State	
GO-131-D, CPUC "Rules for Planning and Construction of Electric Generation Line and Substation Facilities in California"	Specifies application and noticing requirements for new line construction including EMF reduction.
CPUC Decision 93-11-013	Specifies CPUC requirements for reducing power frequency electric and magnetic fields.
Industry Standards	
American National Standards Institute (ANSI/IEEE) 644-1944 Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields from AC Power Lines	Specifies standard procedures for measuring electric and magnetic fields from an operating electric line.
Fire Hazards	
State	
14 CCR Sections 1250-1258, "Fire Prevention Standards for Electric Utilities"	Provides specific exemptions from electric pole and tower firebreak and conductor clearance standards and specifies when and where standards apply.

TRAFFIC AND TRANSPORTATION

<i>Applicable LORS</i>	<i>Description</i>
Federal	
Aeronautics and Space Title 14 Code of Federal Regulations (CFR), part 77 Objects Affecting Navigable Airspace (14 CFR 77)	Establishes standards for determining physical obstructions to navigable airspace; sets noticing and hearing requirements; and provides for aeronautical studies to determine the effect of physical obstructions on the safe and efficient use of airspace.
49 CFR, Subtitle B	Includes procedures and regulations pertaining to interstate and intrastate transport (including hazardous materials program procedures) and provides safety measures for motor carriers and motor vehicles that operate on public highways.
State	
California Vehicle Code (CVC), division 2, chapter 2.5; div. 6, chap. 7; div. 13, chap. 5; div. 14.1, chap. 1 & 2; div. 14.8; div. 15	Includes regulations pertaining to licensing, size, weight, and load of vehicles operated on highways; safe operation of vehicles; and the transportation of hazardous materials.
California Streets and Highway Code, division 1 & 2, chapter 3 & chapter 5.5	Includes regulations for the care and protection of state and county highways and provisions for the issuance of written permits.
California Street and Highway Code §§117, 660-711	Requires permits from California Department of Transportation (Caltrans) for any roadway encroachment during truck transportation and delivery.
California Street and Highway Code §§660-711	Requires permits for any load that exceeds Caltrans weight, length, or width standards for public roadways.

TRANSMISSION SYSTEM ENGINEERING

<i>Applicable LORS</i>	<i>Description</i>
The North American Electric Reliability Corporation (NERC)	<p>North American Reliability Council (NERC) Reliability Standards for the Bulk Electric Systems of North America provide national policies, standards, principles and guidelines to assure the adequacy and security of the electric transmission system. The NERC Reliability Standards provide for system performance levels under normal and contingency conditions. With regard to power flow and stability simulations, while these Reliability Standards are similar to NERC/WECC Standards, certain aspects of the NERC/WECC Standards are either more stringent or more specific than the NERC Standards for Transmission System Contingency Performance. The NERC Reliability Standards apply not only to interconnected system operation but also to individual service areas (NERC 2006).</p>
Western Electricity Coordinating Council's (WECC)	<p>The Western Electricity Coordinating Council (WECC) Planning Standards are merged with the North American Electric Reliability Council (NERC) Planning Standards and provide the system performance standards used in assessing the reliability of the interconnected system. These standards require the continuity of service to loads as the first priority and preservation of interconnected operation as a secondary priority. Certain aspects of the NERC/WECC standards are either more stringent or more specific than the NERC standards alone. These standards provide planning for electric systems so as to withstand the more probable forced and maintenance outage system contingencies at projected customer demand and anticipated electricity transfer levels, while continuing to operate reliably within equipment and electric system thermal, voltage and stability limits. These standards include the reliability criteria for system adequacy and security, system modeling data requirements, system protection and control, and system restoration. Analysis of the WECC system is based to a large degree on Section I.A of the standards, "NERC and WECC Planning Standards with Table I and WECC Disturbance-Performance Table" and on Section I.D, "NERC and WECC Standards for Voltage Support and Reactive Power". These standards require that the results of power flow and stability simulations verify defined performance levels. Performance levels are defined by specifying the allowable variations in thermal loading, voltage and frequency, and loss of load that may occur on systems during various disturbances.</p>

	<p>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 a level 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 along a common right of way, and/or multiple generators). While controlled loss of generation or load or system separation is permitted in certain circumstances, their uncontrolled loss is not permitted (WECC 2006).</p>
<p>California Public Utilities Commission (CPUC) General Order 95 (GO-95), <i>Rules for Overhead Electric Line Construction</i></p>	<p>Specifies uniform requirements for the construction of overhead electric lines. Compliance with this order ensures both reliable service and a safe working environment for those working in the construction, maintenance, operation, or use of overhead electric lines, and for the safety of the general public.</p>
<p>CPUC General Order 128 (GO-128), <i>Rules for Underground Electric Line Construction</i></p>	<p>Establishes uniform requirements for the construction of underground electric lines. Compliance with this order also ensures both reliable service and a safe working environment for those working in the construction, maintenance, operation, or use of underground electric lines, and for the safety of the general public.</p>
<p>National Electric Safety Code 1999</p>	<p>Provides electrical, mechanical, civil, and structural requirements for overhead electric line construction and operation.</p>
<p>California Independent System Operator (CAISO)</p>	<p>California ISO Planning Standards also provide standards, and guidelines to assure the adequacy, security and reliability in the planning of the California ISO transmission grid facilities. The California ISO Grid Planning Standards incorporate the NERC/WECC and NERC Reliability Planning Standards. With regard to power flow and stability simulations, these Planning Standards are similar to the NERC/WECC or NERC Reliability Planning Standards for Transmission System Contingency Performance. However, the California ISO Standards also provide some additional requirements that are not found in the WECC/NERC or NERC Standards. The California ISO Standards apply to all participating transmission owners interconnecting to the California ISO controlled grid. They also</p>

	<p>apply when there are any impacts to the California ISO grid due to facilities interconnecting to adjacent controlled grids not operated by the California ISO (California ISO 2002a).</p> <p>California ISO/FERC Electric Tariff provides guidelines for construction of all transmission additions/upgrades (projects) within the California ISO controlled grid. The California ISO determines the “Need” for the proposed project where it will promote economic efficiency or maintain system reliability. The California ISO also determines the Cost Responsibility of the proposed project and provides an Operational Review of all facilities that are to be connected to the California ISO grid (California ISO 2007a).</p>
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VISUAL RESOURCES

Applicable LORS	Description
Federal	
Transportation Equity Act for the 21st Century of 1998, and Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2005.	Designed to protect federally managed lands or a recognized National Scenic Byway or All-American Road within its vicinity. Does not apply to this project.
State	
California Streets and Highways Code, Sections 260 through 263 – Scenic Highways	Designed to ensure the protection of highway corridors that reflect the State's natural scenic beauty.
Local	
San Joaquin County General Plan 2010, Chapter IV, Public Facilities; Agricultural Land; Objectives	Designed to minimize the impact on agriculture in the transition of agricultural land to development
San Joaquin County General Plan 2010, July 1992; Volume 1, Section VI, Resources	Designed to ensure the preservation of open space, including lands for scenic value, views of waterways, hilltops, oak groves; scenic vistas; scenic roads; development along scenic roads; and landscaping plans for development along scenic routes.
San Joaquin County General Plan 2010, July 1992; Community Development Chapter	Designed to provide guidelines for coherent organization of community development pattern; economic development; housing; circulation; utilities; and public facilities
San Joaquin County General Plan 2010, July 1992; Resources; Open Space, Policy 13	Development proposals along scenic routes shall not detract from the visual and recreational experience.
San Joaquin County General Plan 2010; July 1992; Public Facilities; Recreation, Policy 23	Scenic corridors along recreational travel ways and scenic routes shall be protected from unsightly development.

WASTE MANAGEMENT

<i>Applicable LORS</i>	<i>Description</i>
Federal	
<p>Title 42, United States Code, §§ 6901, et seq. Solid Waste Disposal Act of 1965 (as amended and revised by the Resource Conservation and Recovery Act of 1976, et al.)</p>	<p>The Solid Waste Disposal Act, as amended and revised by the Resource Conservation and Recovery Act (RCRA) et al., establishes requirements for the management of solid wastes (including hazardous wastes), landfills, underground storage tanks, and certain medical wastes. The statute also addresses program administration, implementation, and delegation to states, enforcement provisions, and responsibilities, as well as research, training, and grant funding provisions. RCRA Subtitle C establishes provisions for the generation, storage, treatment, and disposal of hazardous waste, including requirements addressing:</p> <ul style="list-style-type: none"> • Generator record keeping practices that identify quantities of hazardous wastes generated and their disposition; • Waste labeling practices and use of appropriate containers; • Use of a manifest when transporting wastes; • Submission of periodic reports to the United States Environmental Protection Agency (U.S. EPA) or other authorized agency; and • Corrective action to remediate releases of hazardous waste and contamination associated with RCRA-regulated facilities. • RCRA Subtitle D establishes provisions for the design and operation of solid waste landfills. <p>RCRA is administered at the federal level by U.S. EPA and its 10 regional offices. The Pacific Southwest regional office (Region 9) implements U.S. EPA programs in California, Nevada, Arizona, and Hawaii.</p>
<p>Title 40, Code of Federal Regulations (CFR), Subchapter I – Solid Wastes</p>	<p>These regulations were established by U.S. EPA to implement the provisions of the Solid Waste Disposal Act and RCRA (described above). Among other things, the regulations establish the criteria for classification of solid waste disposal facilities (landfills), hazardous waste characteristic criteria and regulatory thresholds, hazardous waste generator requirements, and requirements for management of used oil and universal wastes. U.S. EPA implements the regulations at the federal level. However, California is an authorized state so the regulations are implemented by state agencies and authorized local agencies in lieu of U.S. EPA.</p>
State	
<p>California Health and Safety Code, Chapter 6.5, §§25100, et seq.</p>	<p>This California law creates the framework under which hazardous wastes must be managed in California. The law provides for the development of a state hazardous waste program that administers and implements the provisions of the federal RCRA program. It also provides for the designation of California-only</p>

Applicable LORS	Description
	hazardous wastes and development of standards (regulations) that are equal to or, in some cases, more stringent than federal requirements.
Hazardous Waste Control Act of 1972, as amended	The California Environmental Protection Agency (Cal/EPA), Department of Toxic Substances Control (DTSC) administers and implements the provisions of the law at the state level. Certified Unified Program Agencies (CUPAs) implement some elements of the law at the local level.
Title 22, California Code of Regulations (CCR), Division 4.5 Environmental Health Standards for the Management of Hazardous Waste	These regulations establish requirements for the management and disposal of hazardous waste in accordance with the provisions of the California Hazardous Waste Control Act and federal RCRA. As with the federal requirements, waste generators must determine if their wastes are hazardous according to specified characteristics or lists of wastes. Hazardous waste generators must obtain identification numbers, prepare manifests before transporting the waste off site, and use only permitted treatment, storage, and disposal facilities. Generator standards also include requirements for record keeping, reporting, packaging, and labeling. Additionally, while not a federal requirement, California requires that hazardous waste be transported by registered hazardous waste transporters. The Title 22 regulations are established and enforced at the state level by DTSC. Some generator standards are also enforced at the local level by CUPAs.
California Health and Safety Code, Chapter 6.11 §§ 25404–25404.9 Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program)	The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of the six environmental and emergency response programs listed below. <ul style="list-style-type: none"> • Aboveground Storage Tank Program • Business Plan Program • California Accidental Release Prevention (CalARP) Program • Hazardous Material Management Plan / Hazardous Material Inventory Statement Program • Hazardous Waste Generator / Tiered Permitting Program • Underground Storage Tank Program The state agencies responsible for these programs set the standards for their programs while local governments implement the standards. The local agencies implementing the Unified Program are known as Certified Unified Program Agencies (CUPAs). San Joaquin County Environmental Health Department (EHD).is the area CUPA. Note: The Waste Management analysis only considers application of the Hazardous Waste Generator/Tiered Permitting

Applicable LORS	Description
	element of the Unified Program. Other elements of the Unified Program may be addressed in the Hazardous Materials and/or Worker Health and Safety analysis sections.
Public Resources Code, Division 30, §§ 40000, et seq. California Integrated Waste Management Act of 1989.	The California Integrated Waste Management Act of 1989 (as amended) establishes mandates and standards for management of solid waste. Among other things, the law includes provisions addressing solid waste source reduction and recycling, standards for design and construction of municipal landfills, and programs for county waste management plans and local implementation of solid waste requirements.
Title 14, CCR, Division 7, § 17200, et seq. California Integrated Waste Management Board	These regulations further implement the provisions of the California Integrated Waste Management Act and set forth minimum standards for solid waste handling and disposal. The regulations include standards for solid waste management, as well as enforcement and program administration provisions.
Local	
San Joaquin County General Plan (February 2005) – Public Health and Safety Section	Provides guidance for siting and management of facilities that store, collect, treat, dispose or transfer hazardous waste and hazardous materials. The project would be required to comply with the County’s Hazardous Materials stipulations as put forth in the General Plan, Public Health and Safety Section.
San Joaquin County, Community Development Department, Code Enforcement	Incorporates by reference the CA HSC Division 20, Chapter 6.11 which requires the facility to operate as a unified program facility. The project would be required to operate as a unified program facility and would comply with San Joaquin County Environmental Health Department’s Hazardous Materials Division (HMD) requirements concerning storage and handling of hazardous materials and wastes and would also cooperate on resolution of environmental issues at the site.
San Joaquin County Public Works, Solid Waste Division, various programs	Provides guidance for local management of solid waste and household hazardous waste (incorporates the County’s Source Reduction and Recycling Elements, which detail means of reducing commercial and industrial sources of solid waste).
San Joaquin County Environmental Health Department various programs	San Joaquin County HMD would serve as the Certified Unified Program Agency (CUPA) for the project. The CUPA regulates and conducts inspections of businesses that handle hazardous materials, hazardous wastes, and/or have underground storage tanks. The proposed project would be required to comply with HMD requirements concerning storage and handling of hazardous materials and wastes and would also cooperate on resolution of environmental issues at the site.

WORKER SAFETY

<i>Applicable LORS</i>	<i>Description</i>
Federal	
Title 29 U.S. Code (USC) section 651 et seq (Occupational Safety and Health Act of 1970)	This act mandates safety requirements in the workplace with the purpose of “[assuring] so far as possible every working man and woman in the nation safe and healthful working conditions and to preserve our human resources” (29 USC § 651).
Title 29 Code of Federal Regulation (CFR) sections 1910.1 to 1910.1500 (Occupational Safety and Health Administration Safety and Health Regulations)	These sections define the procedures for promulgating regulations and conducting inspections to implement and enforce safety and health procedures to protect workers, particularly in the industrial sector.
29 CFR sections 1952.170 to 1952.175	These sections provide federal approval of California’s plan for enforcement of its own Safety and Health requirements, in lieu of most of the federal requirements found in 29 CFR sections 1910.1 to 1910.1500.
State	
Title 8 California Code of Regulations (Cal Code Regs.) all applicable sections (Cal/OSHA regulations)	These sections require that all employers follow these regulations as they pertain to the work involved. This includes regulations pertaining to safety matters during construction, commissioning, and operations of power plants, as well as safety around electrical components, fire safety, and hazardous materials use, storage, and handling.
24 Cal Code Regs. section 3, et seq.	This section incorporates the current addition of the Uniform Building Code.
Health and Safety Code section 25500, et seq.	This section presents Risk Management Plan requirements for threshold quantity of listed acutely hazardous materials at a facility.
Health and Safety Code sections 25500 to 25541	These sections require a Hazardous Material Business Plan detailing emergency response plans for hazardous materials emergency at a facility.
Local (or locally enforced)	
Uniform Fire Code	This code is enforced by the Tracy Fire Department and requires all places that store or use hazardous or flammable materials to apply for a permit.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV**

Application for Certification
for the ***GWF TRACY COMBINED CYCLE
POWER PLANT PROJECT***

DOCKET No. 08-AFC-7

FINAL EXHIBIT LIST

- EXHIBIT 1** AFC Section 1.0 – Executive Summary, Docket No. 47105, dated 7/10/08; Project Description Air Quality. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 2** AFC Section 2.0 – Project Description; Docket No. 47105; dated 7/10/08; Project Description; Facility Design; Power Plant Efficiency; Power Plant Reliability. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 3** AFC Section 3.0 – Electric Transmission Interconnection; Docket No. 47105; dated 7/10/08; Transmission Line Safety and Nuisance Transmission System Engineering, Facility Design. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 4** AFC Section 4.0 – Natural Gas Supply; Docket No. 47105; dated 7/10/08; Project Description. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 5** Intentionally omitted
- EXHIBIT 6** AFC Section 5.1 – Air Quality; Docket No. 47105; 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 7** AFC Section 5.2 – Biological Resources; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 8** AFC Section 5.3 – Cultural Resources; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.

- EXHIBIT 9** AFC Section 5.4 – Geologic Hazards and Resources; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 10** AFC Section 5.5 – Hazardous Materials Handling; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 11** AFC Section 5.6 – Land Use; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 12** AFC Section 5.7 – Noise; Docket No. 47105; dated 7/10/08; Noise and Vibration. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 13** AFC Section 5.8 – Paleontological Resources; Docket No. 47105; dated 7/10/08; Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 14** AFC Section 5.9 – Public Health; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 15** AFC Section 5.10 – Socioeconomics; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 16** AFC Section 5.11 – Soils; Docket No. 47105; dated 7/10/08. Soil and Water Resources. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 17** AFC Section 5.12 – Traffic and Transportation; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 18** AFC Section 5.13 – Visual Resources; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 19** AFC Section 5.14 – Waste Management; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 20** AFC Section 5.15 – Water Resources; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.

- EXHIBIT 21** AFC Section 5.16 – Worker Health and Safety; Docket No. 47105; dated 7/10/08; Worker Safety. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 22** AFC Section 6.0 – Alternatives; Docket No. 47105; dated 7/10/08; Alternatives. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 23** AFC Appendix 1A – TPP Licensing Materials; Docket No. 47105; dated 7/10/08; Project Description Various. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 24** AFC Appendix 1B – Property Owner Information; Docket No. 47105; dated 7/10/08; Project Description; Various. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 25** AFC Appendix 1C – Persons Who Prepared the AFC; Docket No. 47105; dated 7/10/08; Project Description Various. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 26** AFC Appendix 2A – Engineering; Docket No. 47105; dated 7/10/08; Facility Design. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 27** AFC Appendix 2A.1 – Foundation and Civil Engineering Design Criteria; Docket No. 47105; dated 7/10/08; Facility Design. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 28** AFC Appendix 2A.2 – Structural and Seismic Engineering Design Criteria; Docket No. 47105; dated 7/10/08; Facility Design. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 29** AFC Appendix 2A.3 – Mechanical Engineering Design Criteria; Docket No. 47105; dated 7/10/08; Facility Design. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 30** AFC Appendix 2A.4 – Control Engineering Design Criteria; Docket No. 47105; dated 7/10/08; Facility Design. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 31** AFC Appendix 2A.5 – Electrical Engineering Design Criteria; Docket No. 47105; dated 7/10/08; Facility Design. Sponsored by Applicant and received into evidence on November 30, 2009.

- EXHIBIT 32** AFC Appendix 3A – System Impact Study ; Docket No. 47105; dated 7/10/08; Facility Design Transmission System Engineering. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 33** AFC Appendix 5.1A – Construction Emission Estimates; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 34** AFC Appendix 5.1B – Calculation of Maximum Hourly, Daily, and Annual Emissions; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 35** AFC Appendix 5.1C – Dispersion Modeling and Climate Information; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 36** AFC Appendix 5.1D – SJVAPCD Authority to Construct Forms; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 37** AFC Appendix 5.1E – Evaluation of Best Available Control Technology; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 38** AFC Appendix 5.2A – Resumes of Biological Resources Staff; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 39** AFC Appendix 5.2B – Special-Status Species List; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 40** AFC Appendix 5.3A – Agency Consultation Letters; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 41** AFC Appendix 5.3B – TPP AFC Cultural Resources Assessment – CONFIDENTIAL; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 42** AFC Appendix 5.3C – GWF Tracy CHRIS Literature Search Results – CONFIDENTIAL; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.

- EXHIBIT 43** AFC Appendix 5.3D – Resume of Cultural Resources Staff; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 44** AFC Appendix 5.3E – Cultural Resource Figures 5.3E1a – 5.3E1d – CONFIDENTIAL; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 45** AFC Appendix 5.5A – EDR Offsite Receptor Report; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 46** AFC Appendix 5.7A – Tracy Peaker Plant 2003 Noise Study; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 47** AFC Appendix 5.9A – Sensitive Receptors; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 48** AFC Appendix 5.9B – HARP Modeling; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 49** AFC Appendix 5.10A – Screening-level Environmental Justice Analysis; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 50** AFC Appendix 5.10B – Records of Conversation; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 51** AFC Appendix 5.11A – Draft Construction SWPPP; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 52** AFC Appendix 5.13A – Evaluation of Potential Impacts to Visual Resources; Docket No. 47105; dated 7/10/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 53** AFC Appendix 5.14A – Phase 1 ESA; 47109; dated 7/10/08; Waste Management. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 54** Public Health Modeling Files; Docket No. 47106; dated 7/18/08. Sponsored by Applicant and received into evidence on November 30, 2009.

- EXHIBIT 55** Air Quality Modeling Files; Docket No. 47107; dated 7/18/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 56** Application for Confidential Designation - Paleontological Resources Report (including application for confidential designation); Docket No. 47469; dated 8/06/08; Geology and Paleontology. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 57** Application for Confidential Designation - Cultural Resources Reports (including application for confidential designation); Docket No. 47486; dated 8/06/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 58** Response to Data Adequacy Review; Air Quality, Biological Resources, Cultural Resources, Geology and Paleontology, Traffic and Transportation, Transmission System Engineering, Various; Docket No. 47928; dated 9/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 59** Application for Confidential Designation - Paleontological Figures PAL-1 and PAL-2 (including application for confidential designation); Geology and Paleontology; Docket No. 47997; dated 9/08/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 60** Application for Confidential Designation - Cultural Resources Reports (including application for confidential designation); Docket No. 48040; dated 9/15/08. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 61** Responses to Data Requests 1 through 37 (Data Response Set 1); Docket No. . 49055; dated 11/19/08; Air Quality, Biological Resources, Cultural Resources, Geology and Paleontology, Soil and Water Resources, Public Health, Transmission System Engineering, Various. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 62** E-mail with Estimate Air-Cooled Condenser Mass Flow & Operating Data from Jerry Salamy; Docket No. 49662. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 63** Applicant's Data Responses Set 1A; Docket No. 49700; dated 1/12/09; Air Quality, Public Health. Sponsored by Applicant and received into evidence on November 30, 2009.

- EXHIBIT 64** Workshop Data Responses Set 1; Docket No. 49841; dated 1/23/09; Biological Resources, Various. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 65** Applicant's Interconnection System Impact Re-study-Interconnection Facilities Study Report; Facility Design, TSE; Docket No. 52006; dated 6/15/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 66** FAA Determination of No Hazard and GWF Tracy FAA Form 7460-1; Facility Design; Docket No. 52065; dated 6/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 67** Applicant's Comments on the Preliminary Staff Assessment; Air Quality Public Health Various; Docket No. 52355; dated 7/09/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 68** Applicant's Preliminary Staff Assessment (PSA) Workshop Response to Public Comments Various; Docket No. 52542; dated 7/23/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 69** Appendices to the System Impact Study - Facility Design Transmission System Engineering; Docket No. 52548; dated 7/23/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 70** Declaration of Doug Wheeler regarding Project Description Project Description; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 71** Declaration of Jerry Salamy regarding Air Quality Air Quality; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 72** Declaration of Marjorie Eisert regarding Biological Resources Biological Resources; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 73** Declaration of Clint Helton regarding Cultural Resources Cultural Resources; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.

- EXHIBIT 74** Declaration of Sarah Madams regarding Hazardous Materials Hazardous Materials; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 75** Declaration of Jennifer Scholl regarding Land Use Land Use; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 76** Declaration of Mark Bastasch regarding Noise and Vibration; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 77** Declaration of Jerry Salamy regarding Public Health; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 78** Declaration of Fatuma Yusuf regarding Socioeconomic Resources; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 79** Declaration of Steve Long regarding Soil and Water Resources; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 80** Declaration of Matt Franck regarding Soil and Water Resources; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 81** Declaration of Loren Bloomberg regarding Traffic and Transportation; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 82** Declaration of Doug Wheeler regarding Transmission Line Safety and Nuisance; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 83** Declaration of Joshua Hohn regarding Visual Resources; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 84** Declaration of Sarah Madams regarding Waste Management; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 85** Declaration of Richard Cavil regarding Worker Safety; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.

- EXHIBIT 86** Declaration of Doug Wheeler regarding Facility Design; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 87** Declaration of Thomas Lae regarding Geology and Paleontology; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 88** Declaration of Geoff Spalding regarding Geology and Paleontology; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 89** Declaration of Doug Wheeler regarding Power Plant Efficiency; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 90** Declaration of Doug Wheeler regarding Power Plant Reliability; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 91** Declaration of Hal Moore regarding Transmission System Engineering; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 92** Declaration of Jerry Salamy regarding Alternatives; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 93** Applicant's Comments on the Final Staff Assessment Air Quality Cultural Resources, Public Health; dated 11/11/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 94** Declaration of Jerry Salamy regarding Various dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 95** Declaration of Jerry Salamy regarding Project Description; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 96** Declaration of Hal Moore regarding Facility Design; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.
- EXHIBIT 97** Declaration of Hal Moore regarding Transmission Line Safety and Nuisance; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.

EXHIBIT 98 Declaration of Hal Moore regarding Power Plant Efficiency; dated 11/17/09. Sponsored by Applicant and received into evidence on November 30, 2009.

STAFF'S EXHIBITS 200-299

EXHIBIT 200 The Final Staff Assessment, dated October 30, 2009. Sponsored by Staff and received into evidence on November 30, 2009.

INTERVENORS TUSOS' EXHIBITS 300- 399

NONE

INTERVENOR SARVEY'S EXHIBITS – 400 -499

NONE



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
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**APPLICATION FOR CERTIFICATION
FOR THE *GWF TRACY COMBINED CYCLE
POWER PLANT PROJECT***

Docket No. 08-AFC-7

PROOF OF SERVICE LIST

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ENERGY COMMISSION

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DECLARATION OF SERVICE

I, _____, declare that on _____, 2010, I served and filed copies of the attached, _____, dated _____, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [\[http://www.energy.ca.gov/sitingcases/tracyexpansion\]](http://www.energy.ca.gov/sitingcases/tracyexpansion).

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

_____ sent electronically to all email addresses on the Proof of Service list;

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_____ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (*preferred method*);

OR

_____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 08-AFC-7
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV**

APPLICATION FOR CERTIFICATION
FOR THE ***GWF TRACY COMBINED CYCLE
POWER PLANT PROJECT***

Docket No. 08-AFC-7

PROOF OF SERVICE LIST
(Revised 2/8/10)

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DECLARATION OF SERVICE

I, RoseMary Avalos, declare that on February 17, 2010, I served and filed copies of the attached, PRESIDING MEMBER'S PROPOSED DECISION AND NOTICE OF AVAILABILITY OF THE PRESIDING MEMBER'S PROPOSED DECISION AND NOTICE OF COMMISSION HEARING , dated February 17, 2010. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at:

[\[http://www.energy.ca.gov/sitingcases/tracyexpansion\]](http://www.energy.ca.gov/sitingcases/tracyexpansion).

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

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X by personal delivery or by depositing in the United States mail at Sacramento, California with first-class postage thereon fully prepaid and addressed as provided on the Proof of Service list above to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

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1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.

Original Signed By: _____
ROSEMARY AVALOS